

# Herramientas de IA para la búsqueda bibliográfica

Dr. Eduardo Fuentes  
CEO  
WriteWise

Eduardo Fuentes, Ph.D.

Co-founder & CEO WriteWise



Ph.D. Biotecnología, UNAB 

PostDoc 1. University of St. Andrews, UK 

PostDoc 2. University of Aberdeen, UK 

Postdoc 3. University of Gothenburg, Sweden 

**Certificado en:**

 **Stanford University, USA - *Writing in the Sciences***

 **Harvard University, USA - *Rhetoric and Persuasive Writing***

 **University of California, Berkeley, USA - *Academic Writing***

 **University of Cambridge, UK - *Accessible Academic Writing***

 **Vanderbilt University, USA - *Prompt Engineering***

• 6 años de experiencia en el uso de IA Generativa, Agentes de IA, Prompt Engineering

• 21 artículos de investigación en revistas Q1 y Q2 WOS

• > 1170 citas

• 15 h-index

• 16 proyectos adjudicados

• > 6.000 investigadores capacitados

# PROGRAMA DEL CURSO

## **Módulo 1: Búsqueda semántica de literatura.**

Realizar búsquedas efectivas de literatura con IA con **SciSpace**

## **Módulo 2: Lectura y toma de notas**

Facilitar la lectura detallada de artículos académicos y la toma de notas eficiente con **SciSpace**.

## **Módulo 1 y 2: Otras herramientas**

Búsqueda de literatura y toma de notas con otras herramientas: **Consensus, Elicit, Scite,**

# PROGRAMA DEL CURSO

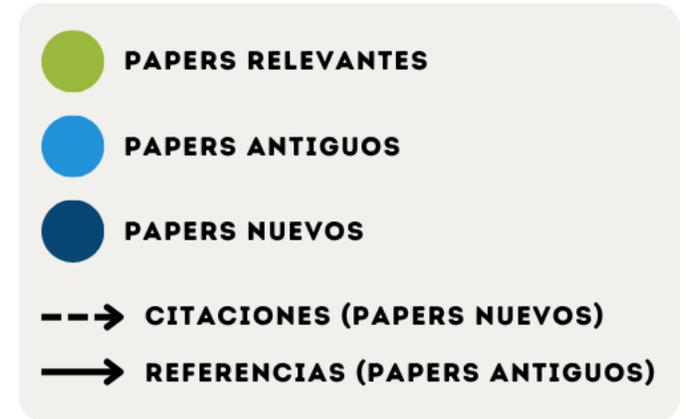
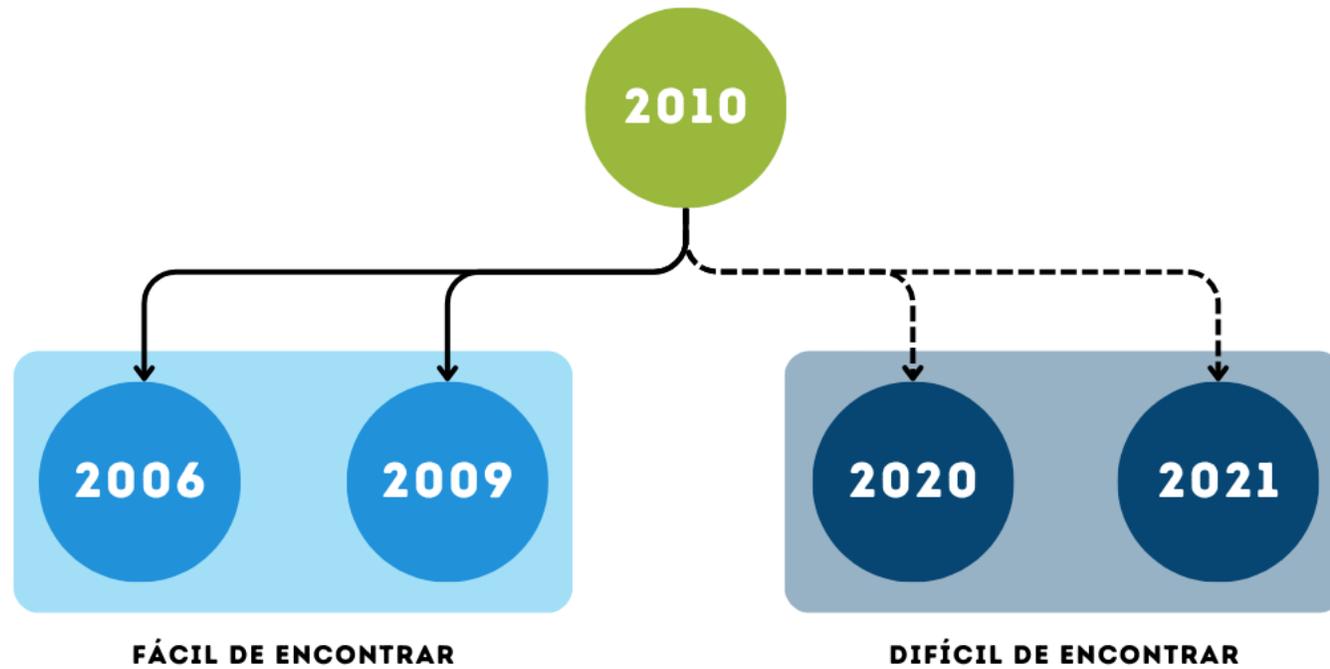
## **Módulo 3: Mapeo de literatura y red de citas**

Organizar y visualizar grandes volúmenes de literatura, identificando relaciones: **Litmaps, Research Rabbit, Connected Papers,**

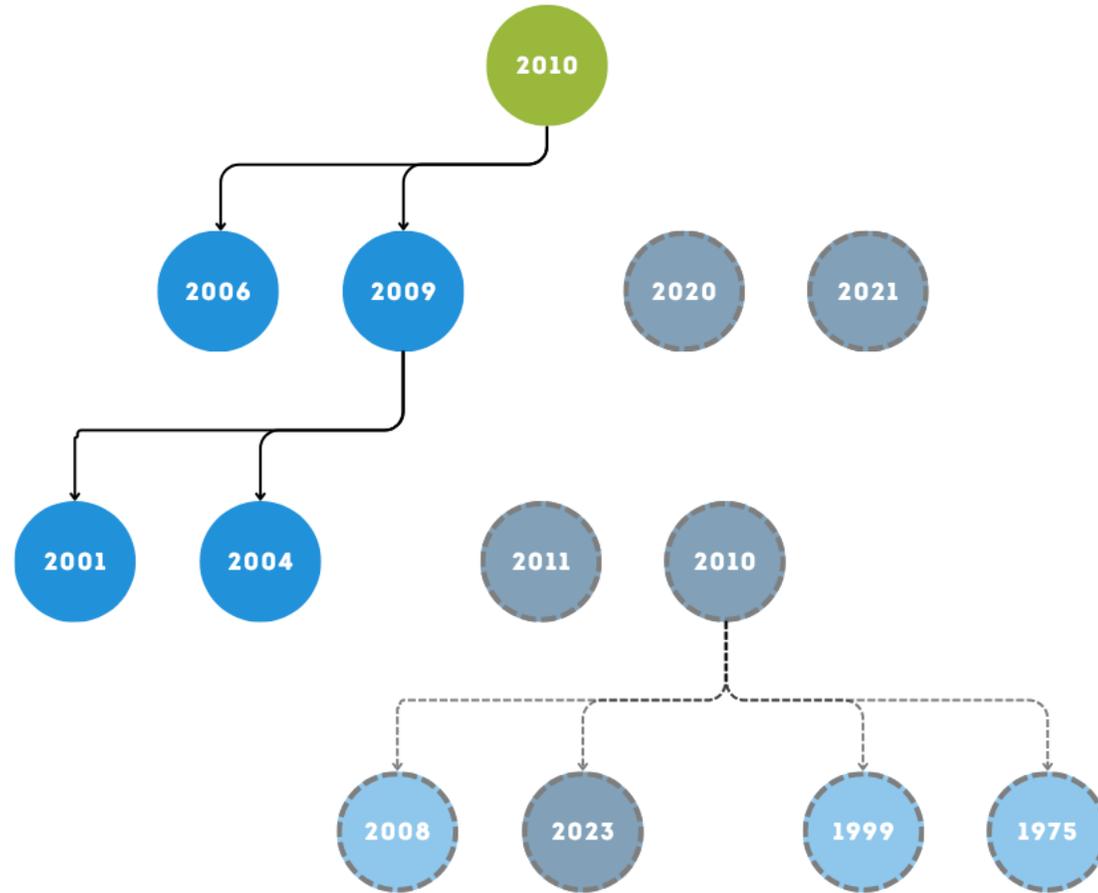
## **Módulo 4: Redacción basada en notas**

Redactar un primer borrador basado en síntesis con ChatGPT.

# Referencias y Citas



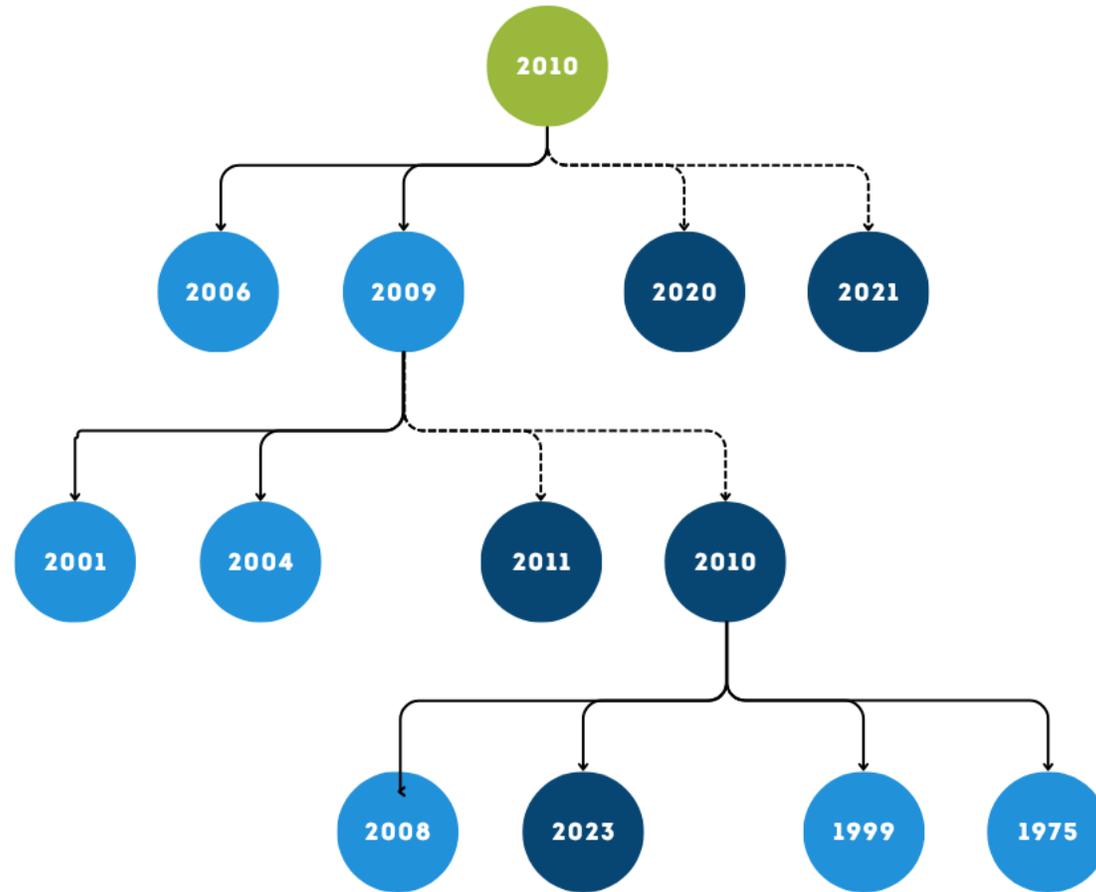
# Forma antigua: Reunir artículos porque es difícil encontrar las citas.



-  PAPERS RELEVANTES
-  PAPERS ANTIGUOS
-  PAPERS NUEVOS
-  CITACIONES (PAPERS NUEVOS)
-  REFERENCIAS (PAPERS ANTIGUOS)



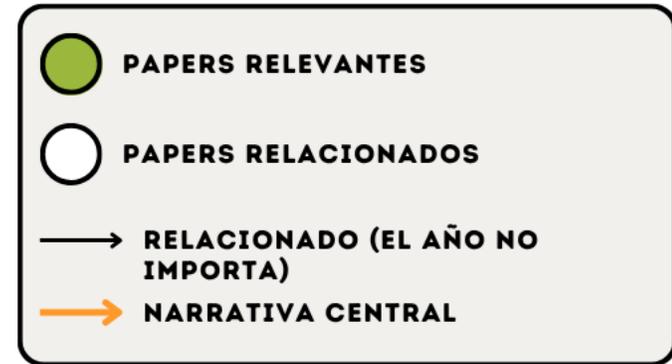
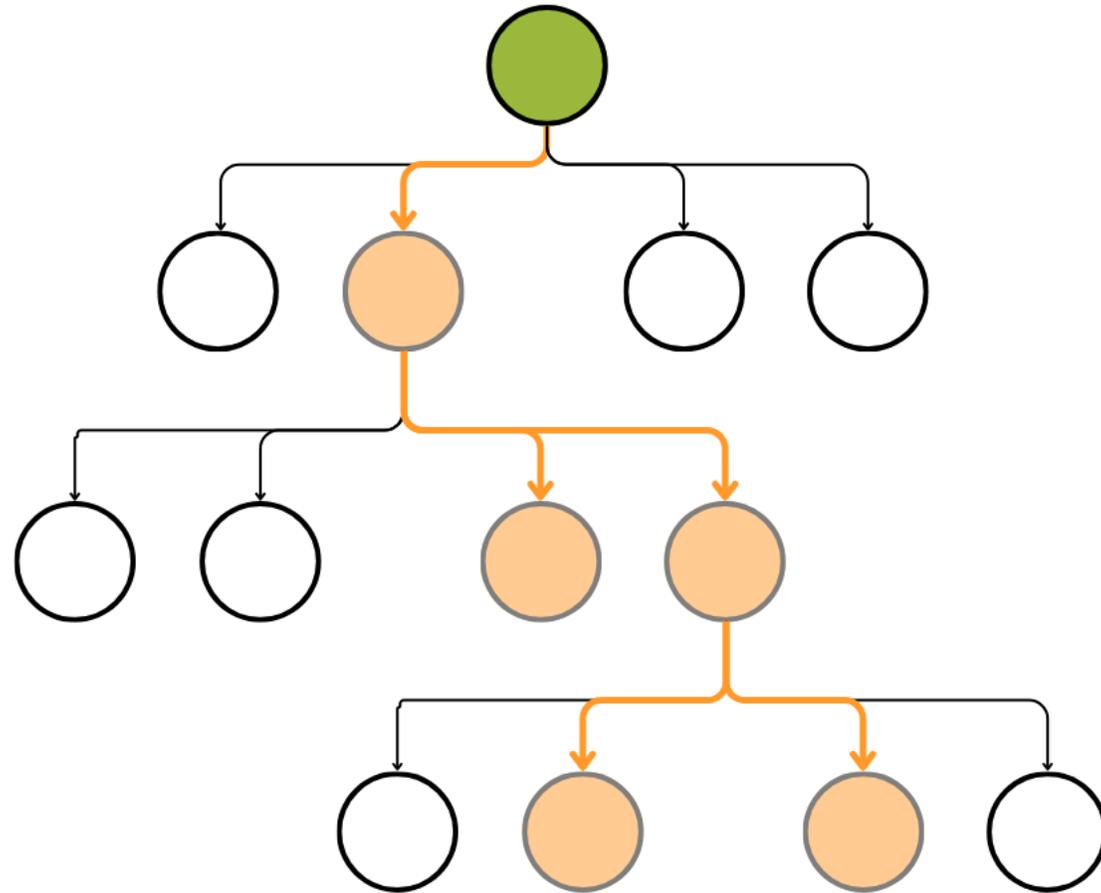
# Explorando la Red Conectada



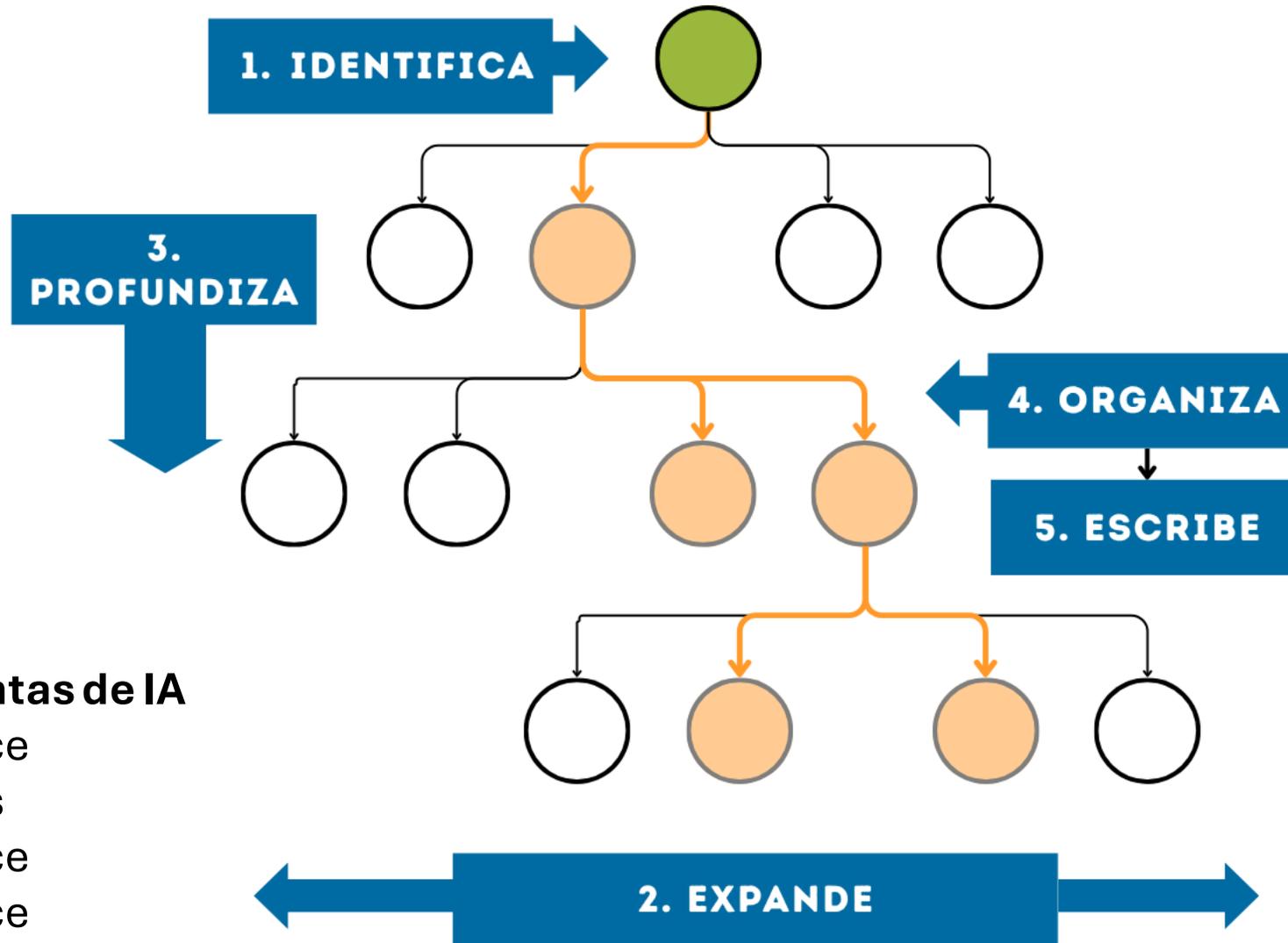
-  PAPERS RELEVANTES
-  PAPERS ANTIGUOS
-  PAPERS NUEVOS
-  CITACIONES (PAPERS NUEVOS)
-  REFERENCIAS (PAPERS ANTIGUOS)



# Nueva forma: Seguir una narrativa de artículos relacionados.



# Qué herramientas necesitamos y por qué.



## Herramientas de IA

1. SciSpace
2. Litmaps
3. SciSpace
4. SciSpace
5. ChatGPT



1.

**BÚSQUEDA SEMÁNTICA  
(SCISPACE)**



SCISPACE

FILTRO Y SELECCIÓN

LECTURA

SÍNTESIS Y NOTAS

2.

**MAPEO Y RED DE CITAS  
(LITMAPS)**

2. Litmaps

PAPER SEMILLA

SELECCIÓN PAPERS  
RELACIONADOS

★  
**CONOCIMIENTO  
EXPERTO**

3.

**PRIMER BORRADOR  
(CHATGPT)**



**REDACCIÓN BASADA EN  
NOTAS**



# **Módulo 1: Búsqueda Semántica de literatura**



99



AI



# The Fastest Research Platform Ever

All-in-one AI tools for students and researchers.

Standard

High Quality

Deep Review



Try searching for:

 Introducing Deep-Review - Do systematic literature review in minutes. [Know More](#)



Articles

About 41,200 results (0.25 sec)

My profile

- Any time
- Since 2025
- Since 2024
- Since 2021
- Custom range...

- Sort by relevance
- Sort by date

- Any type
- Review articles

- include patents
- include citations

Create alert

### Regulation of skeletal muscle growth in fish by the growth hormone–insulin-like growth factor system

[PDF] academia.ed

EN Fuentes, JA Valdés, A Molina... - General and Comparative ..., 2013 - Elsevier

... IGF binding proteins (IGFBPs) and the contribution of muscle-derived versus hepatic-produced IGF1 on fish muscle growth is ... the GH-IGF system regulating fish skeletal muscle growth is ...

☆ Save Cite Cited by 341 Related articles All 7 versions

### Abundant insulin-like growth factor-1 (IGF-1) receptor binding in fish skeletal muscle

M Párrizas, EM Plisetskaya, J Planas... - General and comparative ..., 1995 - Elsevier

... Studies on the second messengers for insulin and IGF-1 (IRS-1, MAP2K) in this fish model ... of insulin and IGF-1 action, In conclusion, we can hypothesize that the role of insulin and IGF-i ...

☆ Save Cite Cited by 110 Related articles All 5 versions

### Paradigms of growth in fish

[PDF] researchgate

TP Mommsen - Comparative biochemistry and physiology part B ..., 2001 - Elsevier

... growth of the fish is minute. The consideration of reducing overall fish growth to white muscle growth can be ... Fish muscle contains even higher numbers of IGF-I receptors than insulin ...

☆ Save Cite Cited by 509 Related articles All 7 versions



does igf 1 increase muscle growth in fish?



Search

Advanced Create alert Create RSS

User Guide

Save

Email

Send to

Sort by:

Best match



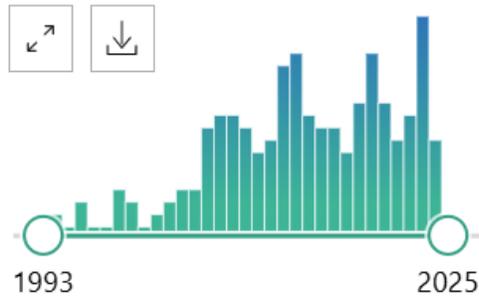
Display options

MY CUSTOM FILTERS

163 results

Page 1 of 17

RESULTS BY YEAR



PUBLICATION DATE

- 1 year
- 5 years
- 10 years
- Custom Range

1 **Hyperplasia and cellularity changes in IGF-1-overexpressing skeletal muscle of crucian carp.**

Cite Li D, Lou Q, Zhai G, Peng X, Cheng X, Dai X, Zhuo Z, Shang G, Jin X, Chen X, Han D, He J, Yin Z. *Endocrinology*. 2014 Jun;155(6):2199-212. doi: 10.1210/en.2013-1938. Epub 2014 Mar 10.  
Share PMID: 24617525

In stable transgenic germline F1 progenies, a 5-fold **increase** in the level of **IGF-1** in skeletal **muscle** was observed. Evident skeletal **muscle** hyperplasia was observed in the transgenic **fish** through histologic analysis. ...Although the body ...

2 **Irisin promotes tilapia muscle cell growth and amino acid uptake via IGF-1 signaling.**

Cite Deng W, Xu M, Dong R, Yan Y, Jiang Q. *J Endocrinol*. 2024 Jul 24;262(3):e240122. doi: 10.1530/JOE-24-0122. Print 2024 Sep 1.  
Share PMID: 38954845



1. Hacer clic en "Login"

# The Fastest Research Platform Ever

All-in-one AI tools for students and researchers.

Enter your search query

Standard

High Quality

Deep Review



## Introducing Deep Review

Do systematic literature review in minutes. Never miss out on important papers. [Blog](#)

<https://scispace.com/?via=eduardo>

## 2. Continuar con Google ×



To continue, Log in into SciSpace

 Continuar con Google

or

Email address

Password

[Forgot Password?](#)

**Log in**

Don't have an account ? [Sign up](#)

Enter your search query

Standard High Qua



Intro

Do sy

Try asking or searching for

Q How does climate change impact biodiversity?

n Ever

important papers

# Búsqueda de tópicos complejos



- Home icon
- Library icon
- Chat icon
- Search icon
- Write icon
- Share icon
- Menu icon
- 99
- Lightning bolt icon
- AI icon
- Profile icon
- Chat icon

## The Fastest Research Platform Ever

All-in-one AI tools for students and researchers.



Vías de señalización de IGF-I/PI3K/Akt y IGF-I/MAPK/ERK en el músculo esquelético del lenguado fino (*Paralichthys adspersus*) utilizando análisis in vivo, con un enfoque en la regulación nutricional y el crecimiento somático.

Standard High Quality Deep Review



Try searching for:

How does climate change impact biodiversity?

Why are aging Covid patients more susceptible to

Introducing Deep-Review - Do systematic literature review in minutes. [Know More](#)

**NOTA: Búsqueda en español e ingles funciona igual de bien**

# 3 tipos de búsquedas: búsqueda estándar

The screenshot displays the SCISPACE search interface. At the top, the search query is 'Vías de señalización de IGF-I/PI3K/Akt y IGF-I/MAPK/ERK en el músculo'. The 'Standard' filter is selected and highlighted with a red circle. The search results are presented in a list format, with the top result being a summary of the top 5 papers. A red bracket on the left side of the page highlights the text 'Breve revisión de los 5 artículos mas relevantes' next to the search results. The search results include a paragraph of text, a section titled 'Nutritional Regulation of IGF-I Signaling' with two bullet points, and a section titled 'Pathway Activation and Muscle Growth' with two bullet points. The interface also shows navigation icons on the left, a sidebar with a search icon, and a bottom navigation bar with options like 'Save to Notebook', 'APA, Bullets', and 'Find Topics'.

SCISPACE Papers Vías de señalización de IGF-I/PI3K/Akt y IGF-I/MAPK/ERK en Pricing My Library

My Searches / Vías de señalización de IGF-I/PI3K/Akt y IGF-I/MAPK/ERK en el mús... Save Standard High Quality Deep Review en

**Answer from top 5 papers**

The IGF-I/PI3K/Akt and IGF-I/MAPK/ERK signaling pathways play crucial roles in the nutritional regulation and somatic growth of flounder skeletal muscle (*Paralichthys adspersus*). These pathways are activated by IGF-I, which is influenced by nutritional status, thereby affecting muscle growth and atrophy. The following sections detail the mechanisms involved.

**Nutritional Regulation of IGF-I Signaling**

- **Fasting and Refeeding Effects:** Fasting reduces IGF-I levels and activates catabolic pathways, while refeeding enhances IGF-I signaling, promoting muscle growth through the PI3K/Akt and MAPK/ERK pathways (Fuentes et al., 2011)(Fuentes et al., 2012).
- **Hormonal Interplay:** Elevated plasma GH during fasting leads to decreased IGF-I expression, while refeeding restores GH levels and enhances IGF-I signaling, facilitating muscle growth (Fuentes et al., 2011).

**Pathway Activation and Muscle Growth**

- **Anabolic Effects:** IGF-I stimulates protein synthesis via the PI3K/Akt pathway, inhibiting muscle atrophy by suppressing ubiquitin ligases and promoting satellite cell activation (Yoshida & Delafontaine, 2020).
- **Differential Pathway Roles:** The MAPK/ERK pathway is modulated by nutritional status, influencing muscle hypertrophy and differentiation, with a complex interplay between Akt and ERK signaling (Tiffin et al., 2004).

Conversely, while IGF-I signaling is vital for muscle growth, inherent growth hormone resistance in flounders complicates this process, suggesting that additional factors may also influence somatic growth in this species.

Read Less ^

Save to Notebook APA, Bullets Find Topics

Breve revisión de los 5 artículos mas relevantes

# 3 tipos de búsquedas: búsqueda de alta calidad

The screenshot shows the SCISPACE search interface. At the top, the SCISPACE logo is on the left, and a search bar contains the query 'Vías de señalización de IGF-I/PI3K/Akt y IGF-I/MAPK/ERK en'. To the right of the search bar are 'Pricing' and 'My Library' links. Below the search bar, there are filters for 'Standard', 'High Quality' (highlighted with a red box), and 'Deep Review'. A language dropdown is set to 'en'. The main content area displays search results for the query. A red bracket on the left side of the page highlights the search results, with the text 'Revisión de los 5 artículos mas relevantes' written in red. The search results include a section titled 'Answer from top 5 papers' with a dropdown arrow. Below this, there is a paragraph of text: 'The IGF-I/PI3K/Akt and IGF-I/MAPK/ERK signaling pathways play crucial roles in regulating skeletal muscle growth in the fine flounder (Paralichthys adspersus), particularly in response to nutritional status. These pathways are activated by IGF-I, a key growth factor, and are modulated by the fish's feeding conditions, influencing somatic growth. The research highlights the differential activation of these pathways based on nutritional status, which in turn affects muscle growth and atrophy processes.' This is followed by two sub-sections: 'IGF-I/PI3K/Akt Pathway' and 'IGF-I/MAPK/ERK Pathway', each with a list of bullet points. The 'IGF-I/PI3K/Akt Pathway' section includes two bullet points: 'The PI3K/Akt pathway is essential for promoting protein synthesis and muscle growth. It is activated by IGF-I and is involved in inhibiting muscle atrophy by suppressing the transcription of E3 ubiquitin ligases through FoxO inhibition (Fuentes et al., 2011) (Yoshida & Delafontaine, 2020).' and 'During refeeding, this pathway is strongly activated, leading to increased protein synthesis and reduced expression of atrogenes like MuRF-1 and Atrogin-1, which are associated with muscle atrophy (Fuentes et al., 2012)'. The 'IGF-I/MAPK/ERK Pathway' section includes two bullet points: 'The MAPK/ERK pathway is also activated by IGF-I and is modulated by nutritional status. It plays a role in muscle differentiation and growth (Fuentes et al., 2011).' and 'This pathway's activation is time-dependent and varies with the nutritional state, contributing to the regulation of muscle growth parameters (Fuentes et al., 2011)'. Below these, there is a section titled 'Nutritional Regulation and Somatic Growth' with one bullet point: 'Nutritional status significantly influences the activation of these pathways. Fasting leads to decreased activation of'.

SCISPACE

Papers Vías de señalización de IGF-I/PI3K/Akt y IGF-I/MAPK/ERK en X

Pricing My Library

My Searches / Vías de señalización de IGF-I/PI3K/Akt y IGF-I/MAPK/ERK en el mús... Save

Standard High Quality Deep Review en

**Answer from top 5 papers**

The IGF-I/PI3K/Akt and IGF-I/MAPK/ERK signaling pathways play crucial roles in regulating skeletal muscle growth in the fine flounder (*Paralichthys adspersus*), particularly in response to nutritional status. These pathways are activated by IGF-I, a key growth factor, and are modulated by the fish's feeding conditions, influencing somatic growth. The research highlights the differential activation of these pathways based on nutritional status, which in turn affects muscle growth and atrophy processes.

**IGF-I/PI3K/Akt Pathway**

- The PI3K/Akt pathway is essential for promoting protein synthesis and muscle growth. It is activated by IGF-I and is involved in inhibiting muscle atrophy by suppressing the transcription of E3 ubiquitin ligases through FoxO inhibition (Fuentes et al., 2011) (Yoshida & Delafontaine, 2020).
- During refeeding, this pathway is strongly activated, leading to increased protein synthesis and reduced expression of atrogenes like MuRF-1 and Atrogin-1, which are associated with muscle atrophy (Fuentes et al., 2012).

**IGF-I/MAPK/ERK Pathway**

- The MAPK/ERK pathway is also activated by IGF-I and is modulated by nutritional status. It plays a role in muscle differentiation and growth (Fuentes et al., 2011).
- This pathway's activation is time-dependent and varies with the nutritional state, contributing to the regulation of muscle growth parameters (Fuentes et al., 2011).

**Nutritional Regulation and Somatic Growth**

- Nutritional status significantly influences the activation of these pathways. Fasting leads to decreased activation of

Revisión de los 5 artículos mas relevantes

# 3 tipos de búsquedas: investigación en profundidad

My Searches / unexplored areas in molecular endocrinology of skeletal muscle gro... Saved 10 Mar

Standard High Quality **Deep Review** en ▼

**Research Steps** See all steps ▼

Deep Review Search has found 193 relevant papers after going through 1400 papers.

Revisión en profundidad de los artículos mas relevantes de la temática (193 papers en este ejemplo). Incluye una mini-revisión bibliográfica

Answer from top 20 papers ▼

Table of Contents

**Unexplored Areas in Molecular Endocrinology of Skeletal Muscle Growth in Salmonids: Examining the GH/IGF Axis**

- Compensatory Mechanisms in the GH/IGF Axis
- Environmental Stressors and the GH/IGF Axis
- GH Transgenesis and Skeletal Muscle Growth
- Epigenetic Regulation of the GH/IGF Axis
- Nutritional and Developmental Regulation of the GH/IGF Axis

# 3 tipos de búsquedas: investigación en profundidad

## **Unexplored Areas in Molecular Endocrinology of Skeletal Muscle Growth in Salmonids: Examining the GH/IGF Axis**

The growth hormone (GH)/insulin-like growth factor (IGF) axis plays a pivotal role in regulating skeletal muscle growth in salmonids. Despite significant advancements in understanding this system, several areas remain underexplored. This response highlights these gaps, focusing on the molecular endocrinology of skeletal muscle growth, and identifies areas warranting further investigation.

---

### **1. Compensatory Mechanisms in the GH/IGF Axis**

The GH/IGF axis in salmonids exhibits robust compensatory mechanisms to maintain growth under various conditions. For instance, studies have shown that reductions in IGFBP-2b, a key regulator of IGF-I, are offset by increased IGF signaling capacity in muscle, suggesting a complex interplay between circulating and local IGF factors (Cleveland et al., 2020). However, the precise molecular mechanisms underlying these compensatory responses, particularly in skeletal muscle, remain poorly understood.

Further research is needed to elucidate how local IGF signaling pathways are modulated in response to systemic changes in IGFBP-2b. Additionally, the role of other IGFbps, such as IGFBP-1b, in regulating IGF activity under catabolic conditions, such as fasting or environmental stress, warrants further investigation (Izutsu et al., 2023).

---

### **2. Environmental Stressors and the GH/IGF Axis**

Environmental stressors, such as temperature and salinity, significantly impact the GH/IGF axis and skeletal muscle growth in salmonids. For example, elevated temperatures reduce muscle growth in Atlantic salmon by downregulating IGF-1 and IGF-2 mRNA levels, while also inducing lipolytic actions of GH (Hevrøy et al., 2013). Similarly, crowding stress and low salinity alter GH/IGF axis gene expression, highlighting the axis's sensitivity to environmental conditions (Zheng et al., 2023).

Breve revisión  
bibliografía

# Lista de los 10 papers mas relevantes (de 100)

SCISPACE Papers Vías de señalización de IGF-I/PI3K/Akt y IGF-I/MAPK/ERK en Pricing My Library

Add columns (4) PDF Open Access Top papers More filters Sort by: Relevance Export

<input type="checkbox"/> Papers (10 / 100)	Insights	Conclusions	Resu
<p><input type="checkbox"/> <b>1. IGF-I/PI3K/Akt and IGF-I/MAPK/ERK pathways in vivo in skeletal muscle are regulated by nutrition and contribute to somatic growth in the fine flounder</b></p> <p>Journal Article • 10.1152/AJPREGU.00535.2010</p> <p>Eduardo N. Fuentes, Björn Thrandur Björnsson, Juan Antonio Valdés +4 more</p> <p>8 Mar 2011 • American Journal of Physiology-regulatory Integrative and Comparative Physiology</p> <p>66 124 Request PDF Podcast</p> <p>Chat 66</p>	<p>The study demonstrates that nutritional status regulates the IGF-I/PI3K/Akt and IGF-I/MAPK/ERK pathways in flounder skeletal muscle, influencing plasma IGF-I levels and contributing to somatic growth, particularly during fasting and refeeding trials.</p>	<ul style="list-style-type: none"><li>• IGF-I activates MAPK/ERK and PI3K/Akt pathways in fish muscle.</li><li>• Nutritional status regulates these pathways and somatic growth.</li></ul>	<p>→</p> <p>←</p>
<p><input type="checkbox"/> <b>2. Catabolic Signaling Pathways, Atrogenes, and Ubiquitinated Proteins Are Regulated by the Nutritional Status in the Muscle of the Fine Flounder</b></p> <p>Journal Article • 10.1371/JOURNAL.PONE.0044256</p> <p>Eduardo N. Fuentes, Pamela Ruiz, Juan Antonio Valdés +1 more</p> <p>13 Sep 2012 • PLOS ONE</p> <p>66 44 PDF Summary Podcast</p>	<p>The study highlights that low muscle-derived IGF-I in fine flounder impairs Akt signaling, promoting atrophy. During refeeding, increased IGF-I activates the Akt pathway, enhancing muscle growth, while the MAPK pathway's role remains less defined in this context.</p>	<ul style="list-style-type: none"><li>• Atrophy system components evolved early in vertebrates.</li><li>• Nutritional status regulates muscle growth and atrophy mechanisms.</li></ul>	

# Columnas con información precisa de puntos clave

The screenshot displays the SCISPACE interface with a search results table. The table has four columns: Papers (10 / 100), Insights, Conclusions, and Results. The first row of results is for a paper titled "1. IGF-I/PI3K/Akt and IGF-I/MAPK/ERK pathways in vivo in skeletal muscle are regulated by nutrition and contribute to somatic growth in the fine flounder". The second row is for "2. Catabolic Signaling Pathways, Atrogenes, and Ubiquitinated Proteins Are Regulated by the Nutritional Status in the Muscle of the Fine Flounder".

Papers (10 / 100)	Insights	Conclusions	Results
<p>Journal Article • 10.1152/AJPREGU.00535.2010</p> <p><b>1. IGF-I/PI3K/Akt and IGF-I/MAPK/ERK pathways in vivo in skeletal muscle are regulated by nutrition and contribute to somatic growth in the fine flounder</b></p> <p>Eduardo N. Fuentes, Björn Thrandur Björnsson, Juan Antonio Valdés +4 more</p> <p>8 Mar 2011 - American Journal of Physiology-regulatory Integrative and Comparative Physiology</p> <p>66 124 Request PDF Podcast</p> <p>Chat 66</p>	<p>The study demonstrates that nutritional status regulates the IGF-I/PI3K/Akt and IGF-I/MAPK/ERK pathways in flounder skeletal muscle, influencing plasma IGF-I levels and contributing to somatic growth, particularly during fasting and refeeding trials.</p>	<ul style="list-style-type: none"><li>• IGF-I activates MAPK/ERK and PI3K/Akt pathways in fish muscle.</li><li>• Nutritional status regulates these pathways and somatic growth.</li></ul>	<ul style="list-style-type: none"><li>• IGF-I activates MAPK/ERK and PI3K/Akt pathways in muscle.</li><li>• Nutritional status regulates IGF-I levels and pathway activation.</li></ul>
<p>Journal Article • 10.1371/JOURNAL.PONE.0044256</p> <p><b>2. Catabolic Signaling Pathways, Atrogenes, and Ubiquitinated Proteins Are Regulated by the Nutritional Status in the Muscle of the Fine Flounder</b></p> <p>Eduardo N. Fuentes, Pamela Ruiz, Juan Antonio Valdés +1 more</p> <p>13 Sep 2012 - PLOS ONE</p> <p>66 44 PDF Summary Podcast</p> <p>Chat 66</p>	<p>The study highlights that low muscle-derived IGF-I in fine flounder impairs Akt signaling, promoting atrophy. During refeeding, increased IGF-I activates the Akt pathway, enhancing muscle growth, while the MAPK pathway's role remains less defined in this context.</p>	<ul style="list-style-type: none"><li>• Atrophy system components evolved early in vertebrates.</li><li>• Nutritional status regulates muscle growth and atrophy mechanisms.</li></ul>	<ul style="list-style-type: none"><li>• Atrophy signaling pathways activated during fasting and refeeding.</li><li>• MuRF-1 and Atrogin-1 expression decreased during refeeding.</li></ul>

# Agrega columnas extra para resumir información

SCISPACE Papers Vías de señalización de IGF-I/PI3K/Akt y IGF-I/MAPK/ERK en Pricing My Library

Add columns (4)  PDF  Open Access  Top papers More filters Sort by: Relevance Export

<input type="checkbox"/> Papers (10 / 100)		Objectives	Add a Column
<input type="checkbox"/> <b>1. IGF-I/PI3K/Akt and IGF-I/MAPK/ERK pathways in vivo in skeletal muscle are regulated by nutrition and contribute to somatic growth in the fine flounder</b> Journal Article • 10.1152/AJPREGU.00535.2010 Eduardo N. Fuentes, Björn Thrandur Björnsson, Juan Antonio Valdés +4 more 8 Mar 2011 - American Journal of Physiology-regulatory Integrative and Comparative Physiology 66 124 <span>Request PDF</span> <span>Podcast</span> Chat 66	...vates MAPK/ERK and PI3K/Akt ...in muscle. ...al status regulates IGF-I levels and ...activation.	<ul style="list-style-type: none"><li>Evaluate IGF-I pathways in skeletal muscle growth.</li><li>Study nutrient-mediated activation of these pathways in vivo.</li></ul>	<span>Create new column</span> <b>Suggested Columns</b> <ul style="list-style-type: none"><li>+ TL;DR</li><li>+ Summarized Abstract</li><li>+ Summarized Introduction</li><li>+ Methods Used</li><li>+ Literature Survey</li><li>+ Limitations</li><li>+ Contributions</li><li>+ Practical Implications</li><li>+ Findings</li><li>+ Research Gap</li></ul> <span>Show 8 More</span> <b>Columns added by you</b> <ul style="list-style-type: none"><li>+ GH signalling</li></ul>
<input type="checkbox"/> <b>2. Catabolic Signaling Pathways, Atrogenes, and Ubiquitinated Proteins Are Regulated by the Nutritional Status in the Muscle of the Fine Flounder</b> Journal Article • 10.1371/JOURNAL.PONE.0044256 Eduardo N. Fuentes, Pamela Ruiz, Juan Antonio Valdés +1 more 13 Sep 2012 - PLOS ONE 66 44 <span>PDF</span> <span>Summary</span> <span>Podcast</span> Chat 66	...ignaling pathways activated during ...d refeeding. ...nd Atrogin-1 expression decreased ...feeding.	<ul style="list-style-type: none"><li>Assess atrophy system in skeletal muscle of teleost fish.</li><li>Study nutritional effects on muscle atrophy and hypertrophy.</li></ul>	
<input type="checkbox"/> <b>3. Inherent growth hormone resistance in the skeletal muscle of the fine flounder is modulated by</b> Journal Article • 10.1210/EN.2011-1313	...nder exhibits inherent GH resistance ...il muscle.	<ul style="list-style-type: none"><li>Examine GH system components in fine flounder muscle.</li></ul>	

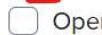
# Filtros de la literatura (incluidos artículos gratuitos)



Add columns (4) ▾



PDF



Open Access



Top papers

More filters ▾

Sort by: Relevance ^

Export ▾

Papers (10 / 100)

Insights ×

Journal Article • 10.1152/AJPREGU.00535.2010

**1. IGF-I/PI3K/Akt and IGF-I/MAPK/ERK pathways in vivo in skeletal muscle are regulated by nutrition and contribute to somatic growth in the fine flounder**

Eduardo N. Fuentes, Björn Thrandur Björnsson, Juan Antonio Valdés +4 more

8 Mar 2011 - American Journal of Physiology-regulatory Integrative and Comparative Physiology

66 124

Request PDF

Podcast

Chat

66

The study demonstrates that nutritional status regulates the IGF-I/PI3K/Akt and IGF-I/MAPK/ERK pathways in flounder skeletal muscle, influencing plasma IGF-I levels and contributing to somatic growth, particularly during fasting and refeeding trials.

Relevance ✓

Citation Count

Newest First

Oldest First

A - Z

Z - A

PK/ERK and PI3K...  
muscle.  
regulates these p...  
th.

# Filtros adicionales (por año, inclusión/exclusión) de keywords

**SCISPACE** Papers Vías de señalización de IGF-I/PI3K/Akt y IGF-I/MAPK/ERK en Pricing My Library

Add columns (4) PDF Open Access Top papers **More filters** ^ Sort by: Relevance Export

**Papers (10 / 100)**

Journal Article • 10.1152/AJPREGU.00535.2010

**1. IGF-I/PI3K/Akt and IGF-I/MAPK/ERK pathways in skeletal muscle are regulated by nutritional status and contribute to somatic growth in the flounder**

Eduardo N. Fuentes, Björn Thrandur Björnsson, Juan Antonio Valdés +4 more

8 Mar 2011 - American Journal of Physiology-reg Integrative and Comparative Physiology

66 124 Request PDF Podcast

Chat 66

Journal Article • 10.1371/JOURNAL.PONE.0044256

**Year** Select

**Publication Type** Select

**Journals** Select

**Conferences** Select

Reset

**Keywords to include** Eg. Gravity

**Keywords to exclude**

**Note:** Use comma (,) to separate different keywords.

Cancel Apply

**Conclusions**

- IGF-I activates MAPK/ERK and PI3K/Akt pathways in fish muscle.
- Nutritional status regulates these pathways and somatic growth.

# Guarda tus papers en carpetas

The screenshot displays a research paper management interface. On the left, a 'Collections' sidebar is open, showing a list of folders under the 'Personal' tab. The 'IGF-1 papers' folder is selected with a red checkmark. Below the list is a '+ Create New' button. In the main area, a search bar contains the text 'ización de IGF-I/PI3K/Akt y IGF-I/MAPK/ERK en'. Below the search bar are filters for 'Year', 'Publication Type', and 'Less filters'. A 'Sort by: Relevance' dropdown and an 'Export' button are also visible. A table of papers is shown, with the first row highlighted. The 'Insights' panel for the first paper is open, displaying a summary of the paper's content. On the right side, there is an 'Add a Column' section with a 'Create new column' button and a 'Suggested Columns' list.

**Collections**  
Select where to save or remove from

**Personal** Shared

- IGF-1 papers
- GH e IGF
- Prueba
- gh AND MUSCLE PAPERS
- Notebooks
- Untitled collection

+ Create New

Chat 66

Journal Article • 10.1152/AJPREGU.00535.2010

**2. IGF-I/PI3K/Akt and IGF-I/MAPK/ERK pathways in vivo in skeletal muscle are regulated by nutrition and contribute to somatic growth in the fine flounder**

**Insights**

The paper does not specifically address IGF-I/PI3K/Akt and IGF-I/MAPK/ERK signaling pathways in flounder skeletal muscle or their nutritional regulation and somatic growth. It focuses on IGF-1's role in skeletal muscle hypertrophy and atrophy in general.

The study demonstrates that IGF-I activates the PI3K/Akt and MAPK/ERK pathways in flounder skeletal muscle, with nutritional status modulating this activation, thereby influencing somatic growth. Fasting decreases, while refeeding

**Add a Column**

Create new column

**Suggested Columns**

- + TL;DR
- + Conclusions
- + Summarized Abstract
- + Results
- + Summarized Introduction
- + Methods Used
- + Literature Survey

# Importa tus papers en tu biblioteca para análisis

**SCISPACE** My library Search or ask a question... Pricing **My Library**

**My Library**

Personal

- All files
- Import from Zotero
- Folders (6)
  - GH e IGF
  - Prueba
  - IGF-1 papers
  - gh AND MUSCLE...
  - Notebooks
  - Untitled collection
- Shared Libraries
  - + New Shared Library

Search or ask a question...

**My Library - All files** High Quality en Chat **Upload PDFs**

Add columns (1) Sort by: Export

Files (15/25)	TL;DR
<input type="checkbox"/> FSCF_RFP3 proposal form_primates English.pdf Untitled collection • Last viewed 28 Mar Summary Podcast Chat	Not addressed in the paper.
<input type="checkbox"/> IGF-I/PI3K/Akt and IGF-I/MAPK/ERK pathways in v... Eduardo N. Fuentes +6 more 8 Mar 2011 • American Journal of Physiology-regulatory Integrative and Comparative Physiology	The results suggest that the nutritionally managed IGF-I could be regulating the activation of the

Chat

# **Ejercicio practico Scispace**

# Ejercicio Práctico (búsqueda DE LA LITERATURA CON Scispace)

1. Crear cuenta en SciSpace
2. Realizar búsqueda bibliográfica basada en tópicos específicos centrales de su estudio **y/o preguntas de investigación**. Seguir esta formula:

[Variable Principal] en [Contexto Específico] del [Población], con un enfoque en [Factor/fenómeno/Condicion Analizada].

Ejemplo: Vías de señalización de IGF-I/PI3K/Akt y IGF-I/MAPK/ERK en el músculo esquelético del lenguado fino (*Paralichthys adspersus*), con un enfoque en la regulación nutricional y el crecimiento somático in vivo.

3. Encontrar papers relevantes, análisis rápido, aplicar filtros, guardar, escoger los papers mas atingentes.

# **Módulo 2:**

**Lectura, análisis,  
síntesis y toma de  
notas de la literatura**



Home / Papers / Inherent growth hormone resistance in the skeletal muscle of the fin...

Open Access | Journal Article | 10.1210/EN.2011-1313

# Inherent growth hormone resistance in the skeletal muscle of the fine flounder is modulated by nutritional status and is characterized by high contents of truncated GHR, impairment in the JAK2/STAT5 signaling pathway, and low IGF-I expression.

Eduardo N. Fuentes, +5 more - 31 Dec 2011 - Endocrinology - Vol. ▼

Podcast 66 46 PDF Saved Cite

**TL;DR:** A unique model of inherent GH resistance in the skeletal muscle of a nonmammalian species is revealed for the first time and novel insights of the e [read more](#)

**Abstract:** A detailed understanding of how the GH and IGF-I regulate muscle growth, especially in early vertebrates, is still lacking. The fine flounder is a flatfish spec [read more](#)

Chat with Paper

## Chat

en

5 may, 2025

Save to Notebook Settings

### Explain the text

GHR dynamics GHRt contents in muscle are almost 4-fold higher than GHRfl, finding low GHRfl to GHRt ratios (Fig. 4). GHRfl and GHRt muscle content did not change significantly in the CTRL fish during the trial, both in the long-term (Fig. 3, A and E, and Fig. 4C) or the short-term feeding obser- vations (Fig. 3, B ; ...[Read more](#)

5 may, 2025

Explain Abstract of this paper, Conclusions +12 more

Chat With:

Ask any question...

High Quality



- 
- 
- 
- 
- 
- 
- 
- 
- 
- 
- 
- 
- 
-



especially in early vertebrates, is still lacking. The time founder is a natural spec [read more](#)

### Chat with Paper

- Explain Abstract of this paper
- Conclusions from the paper
- Results of the paper
- Methods used in this paper
- Summarise introduction of this paper
- What are the contributions of this paper

Show more

PDF file Summary

Podcast

Explain math & table



104%



### Chat



en



5 may, 2025

Save to Notebook

Settings



#### Explain the text

GHR dynamics GHRt contents in muscle are almost 4-fold higher than GHRfl, finding low GHRfl to GHRt ratios (Fig. 4). GHRfl and GHRt muscle content did not change significantly in the CTRL fish during the trial, both in the long-term (Fig. 3, A and E, and Fig. 4C) or the short-term feeding obser- vations (Fig. 3, B ; ...Read more

5 may, 2025

Explain Abstract of this paper, Conclusions

+12 more

Chat With:

Ask any question...



High Quality



99



AI





Explain math & table



104%



GROWTH HORMONE-SOMATOSTATIN-GRH

## Inherent Growth Hormone Resistance in the Skeletal Muscle of the Fine Flounder Is Modulated by Nutritional Status and Is Characterized by High Contents of Truncated GHR, Impairment in the JAK2/STAT5 Signaling Pathway, and Low IGF-I Expression

Eduardo N. Fuentes, Ingibjörg Eir Einarsdóttir, Juan Antonio Valdes, Marco Alvarez, Alfredo Molina, and Björn Thrandur Björnsson

Laboratorio de Biotecnología Molecular (E.N.F., J.A.V., A.M.), Departamento de Ciencias Biológicas, Facultad Ciencias Biológicas, Universidad Andres Bello, 8370146 Santiago, Chile; Fish Endocrinology Laboratory (I.E.E., B.T.B.), Department of Zoology/Zoophysiology, University of Gothenburg, S-405 30 Göteborg, Sweden; Laboratorio de Biología Celular y Molecular (M.A.), Departamento de Ciencias Biológicas, Facultad de Ciencias Biológicas, Universidad Andres Bello, 2561156 Viña del Mar, Chile

A detailed understanding of how the GH and IGF-I regulate muscle growth, especially in early vertebrates, is still lacking. The fine flounder is a flatfish species exhibiting remarkably slow growth, representing an intriguing model for elucidating growth regulatory mechanisms. Key components of the GH system were examined in groups of fish during periods of feeding, fasting, and refeeding. Under feeding conditions, there is an inherent systemic and local (muscle) GH resistance, characterized by higher levels of plasma GH than of IGF-I, skeletal muscle with a greater content of the truncated GH receptor (GHRt) than of full-length GHR (GHRfl), an impaired activation of the Janus kinase 2 (JAK2)-signal transducers and activators of transcription 5 (STAT5) signaling pathway, and low IGF-I expression. Fasting leads to further elevation of plasma GH levels concomitant with suppressed IGF-I levels. The ratio of GHRfl to GHRt in muscle decreases during fasting, causing an inactivation of the JAK2/STAT5 signaling pathway and suppressed IGF-I expression, further impairing growth. When fish are returned to nutritionally favorable conditions, plasma GH levels decrease, and the ratio of GHRfl to GHRt in muscle increases, triggering JAK2/STAT5 reactivation and local IGF-I expression, concomitant with increased growth. The study suggests that systemic IGF-I is supporting basal slow growth in this species, without ruling out that local IGF-I is participating in muscle growth. These results reveal for the first time a unique model of inherent GH resistance in the skeletal muscle of a nonmammalian species and contribute to novel insights of the endocrine and molecular basis of growth regulation in earlier vertebrates. (*Endocrinology* 153: 283-294, 2012)

The GH is an essential hormone required for normal target cells. In mammals, the full length GHR (GHRfl) is responsible for the growth-promoting actions of GH (4),

Downloaded from https://academic.oup.com/endo/article/153/12/283/2424414 by guest on 20 August 2025

Read PDF in full screen

Chat



en



5 may. 2025

Save to Notebook

Settings



Explain the text

GHR dynamics GHRt contents in muscle are almost 4-fold higher than GHRfl, finding low GHRfl to GHRt ratios (Fig. 4). GHRfl and GHRt muscle content did not change significantly in the CTRL fish during the trial, both in the long-term (Fig. 3, A and E, and Fig. 4C) or the short-term feeding observations (Fig. 3, B ; ...Read more

5 may. 2025

Explain Abstract of this paper, Conclusions

+12 more

Chat With:

Ask any question...



High Quality





Untitled Notebook

Full Screen

File Format Tools

Ask AI

Cite

A

...

5/5 actions

significant changes during this time.

- As a result, the ratio of GHRfl to GHRT improved, meaning there were more effective receptors available to respond to growth hormone.

Conclusion:

- The study shows that the levels of GHRfl and GHRT in the muscle of fine flounder fish change based on their feeding status. When the fish fast, they lose the effective GHRfl, which can impair their growth. However, when they are fed again, their bodies can quickly restore these important receptors, allowing for better growth responses. This research helps us understand how fish regulate their growth based on their nutritional status, which is important for fish farming and conservation efforts.

(link)

the skeletal  
d by  
y high  
in the  
w IGF-I

muscle of a  
ights of the ei [read more](#)  
late muscle growth,  
a flatfish spec [read more](#)

Chat

en

- The study shows that the levels of GHRfl and GHRT in the muscle of fine flounder fish change based on their feeding status. When the fish fast, they lose the effective GHRfl, which can impair their growth. However, when they are fed again, their bodies can quickly restore these important receptors, allowing for better growth responses. This research helps us understand how fish regulate their growth based on their nutritional status, which is important for fish farming and conservation efforts.

5 may. 2025

Save to Notebook

Settings



Explain Abstract of this paper, Conclusions

+12 more

Chat With:

Ask any question...

High Quality



# Importa tus papers en tu biblioteca para análisis y haz clic en el paper a analizar

The screenshot displays the SCISPACE web interface. At the top left is the SCISPACE logo. A navigation bar includes 'My library', a search bar, 'Pricing', and a 'My Library' button with a folder icon. A left sidebar contains navigation icons and a 'My Library' section with 'Personal' and 'Shared Libraries' sub-sections. The main content area shows 'My Library - All files' with a search bar, a 'High Quality' toggle, a language dropdown set to 'en', and an 'Upload PDFs' button. Below this is a table of files with columns for 'Files (15/25)' and 'TL;DR'. The first row shows a PDF file 'FSCF\_RFP3 proposal form\_primates English.pdf' with a TL;DR of 'Not addressed in the paper.' The second row shows a paper 'IGF-I/PI3K/Akt and IGF-I/MAPK/ERK pathways in v...' with a TL;DR starting 'The results suggest that the nutritionally managed IGF-I could be regulating the activation of the'. A red arrow points from the 'Upload PDFs' button to the second row of the table.

SCISPACE

My library Search or ask a question... Pricing My Library

My Library

Personal

All files

Import from Zotero

Folders (6)

GH e IGF

Prueba

IGF-1 papers

gh AND MUSCLE...

Notebooks

Untitled collection

Shared Libraries

New Shared Library

Search or ask a question...

High Quality en Upload PDFs

Add columns (1) Sort by: Export

Files (15/25)	TL;DR
<input type="checkbox"/> FSCF_RFP3 proposal form_primates English.pdf Untitled collection • Last viewed 28 Mar Summary Podcast Chat	Not addressed in the paper.
<input type="checkbox"/> IGF-I/PI3K/Akt and IGF-I/MAPK/ERK pathways in v... Eduardo N. Fuentes + 6 more 8 Mar 2011 • American Journal of Physiology-regulatory Integrative and Comparative Physiology	The results suggest that the nutritionally managed IGF-I could be regulating the activation of the

# Ejercicio Práctico (LECTURA Y SINTESIS CON Scispace)

1. Aplicar filtro “Show paper PDF” y “Show paper Open Access”
2. Identificar 1 paper de interés luego de haber filtrado y analizado los resultados
3. Análisis en profundidad con chat
4. Toma de notas de información relevante

# Precios y descuentos por la compra de SciSpace

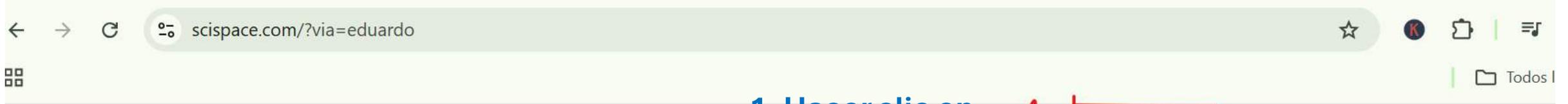


<https://scispace.com/?via=eduardo>

¡Descuentos SciSpace!

**EDUARDO20 — 20% de descuento en el plan premium mensual**  
**EDUARDO40 — 40% de descuento en el plan premium anual**

# Precios y descuentos por la compra de SciSpace



1. Hacer clic en “precio” para ver opciones de planes



## The Fastest Research Platform Ever

All-in-one AI tools for students and researchers.

Enter your search query

Standard

High Quality

Deep Review



### Introducing Deep Review

Do systematic literature review in minutes. Never miss out on important papers. [Blog](#)

# Precios y descuentos por la compra de SciSpace

## Simple, transparent pricing with unlimited usage.

You can cancel anytime. All plans have 100% money back guarantee for 24 hours.

2.



2. Seleccionar plan mensual o ~~anual~~

3. Hacer clic en "Get Premium" o "Get Advance" dependiendo a que funcionalidades quieren acceder

Flash sale till 05 March 2025. 30 percent discount on Premium & Advanced Plans with

~~annual~~

Premium **Most Popular**

**\$12** ~~\$20~~

per month; billed annually

Get Premium

Advanced **Newly Launched**

**\$70** ~~\$90~~

per month; billed annually

Get Advanced

Labs & Universities

**\$65** ~~\$85~~ /

for a team of 2

Total: \$1560 • see

Get

# Precios y descuentos por la compra de SciSpace

4.



**Scispace Premium Plan** USD 144.00  
Scispace Premium - Unlimited research plan for curious researchers  
Se factura anualmente

---

**Subtotal** USD 144.00

**Añadir código de promoción**

---

**Total adeudado hoy** USD 144.00

4. Agregar código de descuento para poder obtener un 20% de descuento

Usar:

- **EDUARDO20** (20% descuento plan mensual)
- **EDUARDO40** (40% descuento plan anual)

Método de pago

Tarjeta

Información de la tarjeta

1234 1234 1234 1234

MM/AA CVC

Nombre del titular de tarjeta

Nombre completo

País o región

Chile

Cash App Pay

Banco USD 5

Guardar mi información mediante un proceso de compra seguro en un clic  
Paga con mayor rapidez en SciSpace (PubGenius Inc) y en todos los comercios que acepten Link.

**Suscribirse**

5. Agregar datos tarjeta de crédito

6. Hacer clic en 'Suscribirse'

6.

**Módulos 1 y 2:**

**Otras herramientas**



Find the best science, faster.

Ask the research...



Pro



Filter



☀ Try searching about...

Medicine and Healthcare



<https://consensus.app/>



# fish skeletal muscle growth signalling pathways

Fish skeletal muscle growth is regulated by complex signaling pathways that control protein synthesis, cell proliferation, and muscle fiber development. These pathways are influenced by hormones, nutrients, stress, and genetic factors, and involve both anabolic (growth-promoting) and catabolic (breakdown-promoting) mechanisms.

## Key Signaling Pathways

### Growth Hormone–Insulin-like Growth Factor (GH–IGF) System

- The GH–IGF system is central to muscle growth in fish. GH stimulates IGF-I expression via the JAK2/STAT5 pathway, though this effect can be limited by the presence of truncated GH receptors in muscle, leading to GH resistance in some species **2** **9**.
- IGFs promote muscle cell proliferation, differentiation, and protein synthesis through the MAPK/ERK and PI3K/AKT/TOR pathways, while also inhibiting proteolysis via the PI3K/AKT/FOXO pathway **2** **4** **10**.
- Nutritional status modulates IGF expression, while refeeding restores IGF expression and decreases expression of atrophy-related genes.

↓ Results

Ask a follow up...



## does IGF1 increase muscle growth in fish?

### Consensus Meter Beta

Results from 8 relevant papers



Insulin-like growth factor 1 (IGF1) is a key hormone involved in regulating muscle growth in fish. **IGF1 increases muscle growth in fish by promoting protein synthesis, muscle cell proliferation, and hypertrophy, and by reducing muscle atrophy.**

### Mechanisms of IGF1 Action

- **Muscle Cell Proliferation and Differentiation:** IGF1 stimulates the proliferation and differentiation of muscle cells (myogenic cells), leading to increased muscle mass. This is mediated through signaling pathways such as MAPK/ERK and PI3K/AKT/TOR, which enhance protein synthesis and muscle growth while inhibiting protein degradation and atrophy [2](#) [3](#) [7](#).
- **Gene Regulation:** IGF1 upregulates genes involved in muscle growth and downregulates genes associated with muscle atrophy (e.g., myostatin, fbxo32, murf1). These effects are observed under both normal and nutrient-restricted conditions, though the magnitude can depend on nutritional status [1](#) [3](#) [8](#) [10](#).
- **Receptor Abundance:** Fish skeletal muscle has a high abundance of IGF1 receptors, making it highly responsive to IGF1 stimulation compared to insulin [6](#).



## Does IGF signaling primarily regulate fish skeletal muscle growth?

### Consensus Meter

Beta

Requires at least 5 papers that directly answer your question. Try adjusting your query to find more papers.

✓✗ Does IGF signaling regulate skeletal muscle growth?



IGF (insulin-like growth factor) signaling is a central regulator of fish skeletal muscle growth, acting through both endocrine and local mechanisms. The available research highlights that **IGF signaling, particularly via IGF-1, plays a primary and essential role in promoting muscle growth, regeneration, and protein synthesis in fish.**

### Role of IGF Signaling in Muscle Growth

↓ Results

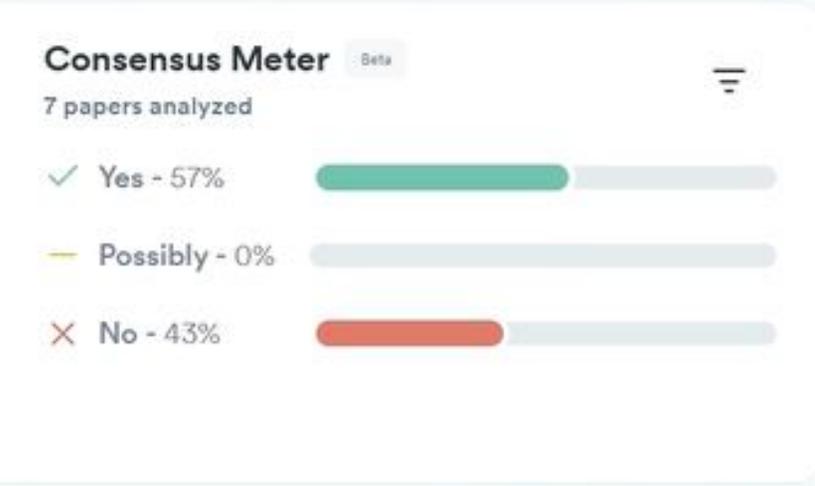
- **Muscle Regeneration and Growth:** IGF-1 and IGF-2 are upregulated during muscle regeneration, supporting the formation of new muscle fibers and muscle growth. IGF-1 levels increase as muscle heals, indicating its importance in muscle repair and growth. Ask a follow up...

Does immigration improve economy? X Q

Synthesize  Copilot Filter Share

**Summary** Beta  
10 papers analyzed

Some studies suggest immigration improves the economy by stimulating technological progress, increasing GDP per capita, and enhancing labor market responsiveness, while other studies highlight potential negative impacts on wages, fiscal sustainability, and welfare programs.





1

## Muscle regeneration in gilthead sea bream: Implications of endocrine and local regulatory factors and the crosstalk with bone

Fish muscle regeneration involves early upregulation of igf-2 and downregulation of ghr-1 and igf-1, with potential tissue crosstalk during the regenerative process.



Non-RCT

Animal Study

Ask this paper

2023 · 3 citations · Aitor Otero-Tarrazón et al. · *Frontiers in Endocrinology*





### IGF Signaling Fish Muscle Growth

2 queries

#### Conclusion

Fish skeletal muscle growth is orchestrated by a network of signaling pathways, with the myostatin pathways playing central roles. Nutritional status, stress, and specific nutrients influence these pathways, affecting the balance between muscle growth and degradation mechanisms provides insight into fish growth regulation and potential strategies for aquaculture.

Filter

Results 1 10

## Does IGF signaling primarily regulate fish skeletal muscle growth?

Consensus Meter Beta

Ask a follow up...

### Filters

#### General

#### Publish year

- Any
- Past 2 yrs.
- Past 5 yrs.
- Past 10 yrs.

No min — 2025

#### Journal rank

Any (Q1-Q4)

#### Citations

At least 0

fish skeletal muscle growth signalling pathways

Apply and resend



# Research Hub

+ New List    Upload paper

Uploaded Papers    Lists

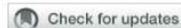
No uploads ↓



## Upload your first paper

Your uploaded papers are always private and only visible to you. You can always find all your paper uploads right here in the Research Hub.

Upload paper

**OPEN ACCESS**

## EDITED BY

Hamid R. Habibi,  
University of Calgary, Canada

## REVIEWED BY

Peggy Biga,  
University of Alabama at Birmingham,  
United States  
Cunming Duan,  
University of Michigan, United States

## \*CORRESPONDENCE

Joaquin Gutierrez  
✉ jgutierrez@ub.edu

†These authors have contributed equally to  
this work

## SPECIALTY SECTION

This article was submitted to  
Experimental Endocrinology,  
a section of the journal  
Frontiers in Endocrinology

RECEIVED 17 November 2022

# Muscle regeneration in gilthead sea bream: Implications of endocrine and local regulatory factors and the crosstalk with bone

Aitor Otero-Tarrazón<sup>†</sup>, Miquel Perelló-Amorós<sup>†</sup>,  
Violeta Jorge-Pedraza, Fatemeh Moshayedi, Albert Sánchez-Moya,  
Isabel García-Pérez, Jaume Fernández-Borràs,  
Daniel García de la serrana , Isabel Navarro, Josefina Blasco,  
Encarnación Capilla and Joaquin Gutierrez\*

Department of Cell Biology, Physiology and Immunology, Faculty of Biology, University of Barcelona, Barcelona, Spain

 **Ask Paper** Beta

Summarize the paper in a few sentences

The paper investigates the process of muscle regeneration in juvenile gilthead sea bream following a mechanical injury. It examines the sequential expression of key genes involved in muscle growth, inflammation, proteolysis, and myogenesis over a 30-day period, as well as the potential crosstalk between muscle and bone tissues during regeneration. The study finds that muscle repair involves an early inflammatory response, activation of proteolytic systems, and later upregulation of genes related to muscle regeneration and maturation. Additionally, changes in bone gene expression suggest a possible regulatory interaction between bone and muscle during the healing process. Overall, the research provides new insights into the molecular mechanisms of muscle regeneration and highlights the interconnectedness of muscle and bone in fish.

Ask this paper...



10 messages left. Resets to 10 on July 7th. [Upgrade for unlimited](#)

# Precios



## Free

For those just getting started with Consensus

**\$0** /mo

Current plan

Basic access:

- ✓ 10 Pro Analyses per month
- ✓ 10 Snapshots per month
- ✓ 10 Ask Paper messages per month
- ✓ Unlimited bookmarks
- ✓ Unlimited custom lists
- ✓ Unlimited searches across over 200M research papers
- ✓ Unlimited research quality indicators



## Premium

For those who want unlimited access to advanced features

**\$8.99** /mo

\$108 billed annually

Upgrade

Everything in Free, plus...

- ✓ Unlimited Pro Analyses
- ✓ Unlimited Snapshots
- ✓ Unlimited Ask Paper messages
- ✓ More features launching every month

Saving \$36/yr



## Teams

For small teams and research orgs

**\$9.99** per seat/mo

\$120 billed annually

Get Started

Everything in Premium plus...

- ✓ Discounts up to 200 seats
- ✓ Manage accounts for your organization
- ✓ Centralized billing
- ✓ Coming Soon: [Consensus Search API](#)

Saving \$36/seat/yr



## Enterprise

For universities and large organizations

## Custom

Contact sales

Custom packages:

- ✓ Massive discounts
- ✓ Integrate with your research library
- ✓ Manage thousands of users
- ✓ Dedicated support
- ✓ [Learn more](#) about how Consensus can work for your university



Features

Testimonials

Pricing

FAQ

Careers

Sign In

Sign Up

# Analyze research papers at superhuman speed

Automate time-consuming research tasks like summarizing papers, extracting data, and synthesizing your findings.

Sign Up

TRUSTED BY RESEARCHERS AT

<https://elicit.com/>

# Regulation of Fish Muscle by GH-IGF Axis

Share

Q Does the GH-IGF axis regulate muscle in fish?

Summary of top 4 papers ▾

Copy

The GH-IGF axis plays a crucial role in regulating muscle growth in fish. [Fuentes \(2013\)](#) and [Vélez \(2016\)](#) both highlight the system's influence on muscle mass, with the former emphasizing the role of IGFs in stimulating myogenic cell proliferation and protein synthesis. [Vélez \(2016\)](#) further demonstrates that sustained exercise can enhance the plasma IGF-I/GH ratio and promote muscle growth in gilthead sea bream. However, [Hevrøy \(2012\)](#) suggests that this regulation can be affected by environmental factors, such as temperature, which can lead to a reduction in muscle growth in Atlantic salmon. These findings underscore the complexity of the GH-IGF axis in fish muscle regulation and the need for further research in this area.

Sort: Most relevant

Filters

Export as ▾

UPGRADE



Paper

Abstract summary



Regulation of skeletal muscle growth in fish by the growth hormone--insulin-like growth factor system.

🔍 Eduardo N Fuentes +3

📖 General and comparative endocrinology

2013 · 178 citations [DOI](#) 🔗

The growth hormone-insulin-like growth factor system is the key promoter of growth in vertebrates.



Effects of sustained exercise on GH-IGFs axis in gilthead sea bream (*Sparus aurata*).

🔍 Emilio J. Vélez +10

📖 American Journal of Physiology. Regulatory Integrative and Comparative Physiology

2016 · 30 citations [Source](#) ↗ [DOI](#) 🔗

Moderate sustained activity may be used to increase the plasma IGF-I/GH ratio and to potentiate growth in farmed gilthead sea bream.

Manage Columns

Search or create a column

Describe what kind of data you want to extract

e.g. Limitations, Survival time

ADD COLUMNS

- + Summary
- + Main findings
- + Methodology
- + Intervention
- + Outcome measured
- + Limitations

8 selected

+ Search citation trails

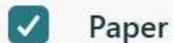
Delete

Sort: Most relevant

Filters

Export as

UPGRADE



Paper

Abstract summary



Regulation of skeletal muscle growth in fish by the growth hormone--insulin-like growth factor system.

The growth hormone-insulin-like growth factor system is the key promoter of growth in vertebrates.

Eduardo N Fuentes +3

General and comparative endocrinology

2013 · 178 citations DOI



Metabolic and mitogenic effects of IGF-I and insulin on muscle cells of rainbow trout.

IGF-I stimulates cell proliferation in this model of muscle in vitro.

J. Castillo +4

American Journal of Physiology. Regulatory Integrative and Comparative Physiology

2004 · 182 citations DOI



Abundant insulin-like growth factor-1 (IGF-1)

IGF-1 receptor binding in fish skeletal muscle presented

Manage Columns

Search or create a column

Describe what kind of data you want to extract

e.g. Limitations, Survival time

ADD COLUMNS

- + Summary
- + Main findings
- + Methodology
- + Intervention
- + Outcome measured
- + Limitations

Add new step

8 papers selected

### Mediation of IGF-1-induced skeletal myotube hypertrophy by PI(3)K/Akt/mTOR and PI(3)K/Akt/GSK3 pathways

Christian Rommel +7

Nature Cell Biology

2001 · 1.426 citations DOI

IGF-1 promotes hypertrophy by activating downstream signaling pathways previously implicated in activating protein synthesis.

#### ADD COLUMNS

- + Summary
- + Main findings
- + Methodology
- + Intervention
- + Outcome measured
- + Limitations

Show more

Load more



#### Chat with papers

Beta

1 papers

Use full text ?

UPGRADE

# Library 0

Upload papers to start using Elicit.

Your library is used to store papers and research for analysis and insights.

Upload Papers 

Connect Zotero 

and the need for further research in this area.

Sort: Most relevant

Filters

Export as

UPGRADE



Paper

Abstract summary

Regulation of skeletal muscle growth in fish by the growth hormone--insulin-like growth factor system.

The growth hormone-insulin-like growth factor system is the key promoter of growth in vertebrates.

Eduardo N Fuentes +3

General and comparative endocrinology

2013 · 178 citations DOI

Effects of sustained exercise on GH-IGFs axis in gilthead sea bream (*Sparus aurata*).

Moderate sustained activity may be used to increase the plasma IGF-I/GH ratio and to potentiate growth in farmed gilthead sea bream.

Emilio J. Vélez +10

American Journal of Physiology. Regulatory Integrative and Comparative Physiology

2016 · 30 citations Source DOI

Understanding fish muscle growth regulation to

The et... cultured myocytes

↓ Add new step

Manage Columns

Search or create a column

Describe what kind of data you want to extract

e.g. Limitations, Survival time

ADD COLUMNS

- + Summary
- + Main findings
- + Methodology
- + Intervention
- + Outcome measured
- + Limitations

Show more

# Precios

	<b>Basic</b> For students and casual exploration  <b>Free</b>  Your current plan	<b>Plus</b> For literature reviews and deeper research  <b>\$10</b> / month \$120 billed annually  Choose plan	<b>Pro</b> For small systematic reviews and professional research  <b>\$42</b> / month \$499 billed annually  Choose plan	<b>Team</b> For large systematic reviews with 2 or more collaborators  <b>\$65</b> per user / month \$780 billed annually  Choose plan
<b>Search across more than 125 million papers</b>	Unlimited	Unlimited	Unlimited	Unlimited
<b>Research Reports</b>	✓	✓	✓	✓
<b>Systematic Review Workflow</b>	✗	✗	✓	✓
<b>Summarization</b>	Unlimited summaries, up to 4 papers at once	Unlimited summaries, up to 8 papers at once	Unlimited summaries, up to 8 papers at once	Unlimited summaries, up to 8 papers at once
<b>Chat with papers</b>	Unlimited chat, up to 4 papers at once	Unlimited chat, up to 8 papers at once	Unlimited chat, up to 8 papers at once	Unlimited chat, up to 8 papers at once
<b>Extract data from PDFs</b>	20 PDFs per month	600 PDFs per year	2.400 PDFs per year	3.600 PDFs per year per user, pooled across your team

**Módulo 3:**  
**Mapeo de la**  
**literatura y red de**  
**citaciones**

# Discover the world of Scientific Literature

1. Hacer clic en  
“Login”

🔍 Search by keyword, author, DOI, Pubmed ID or arXiv ID

We use cookies to ensure that we give you the best experience on our website. If you continue to use this site we will assume that you are happy with it.

Got it

2. Ingresar email  
INSTITUCIONAL, NO  
Gmail.  
Esto con el propósito  
de poder obtener un  
75% de descuento

 **Litmaps** Sign in / Sign up

*Email address*

*Password*

Sign in

Don't have an account? [Sign up](#)  
[Forgot Password](#)

 Sign in with Google

 Sign in with ORCID

**Litmaps**

Q Search...

IMPORT SYNC

EF Default Workspace

LITMAPS

You have no Litmaps

TAGS

- Musculo en peces
- Review

Workspace Articles

Recent

Support

What's New

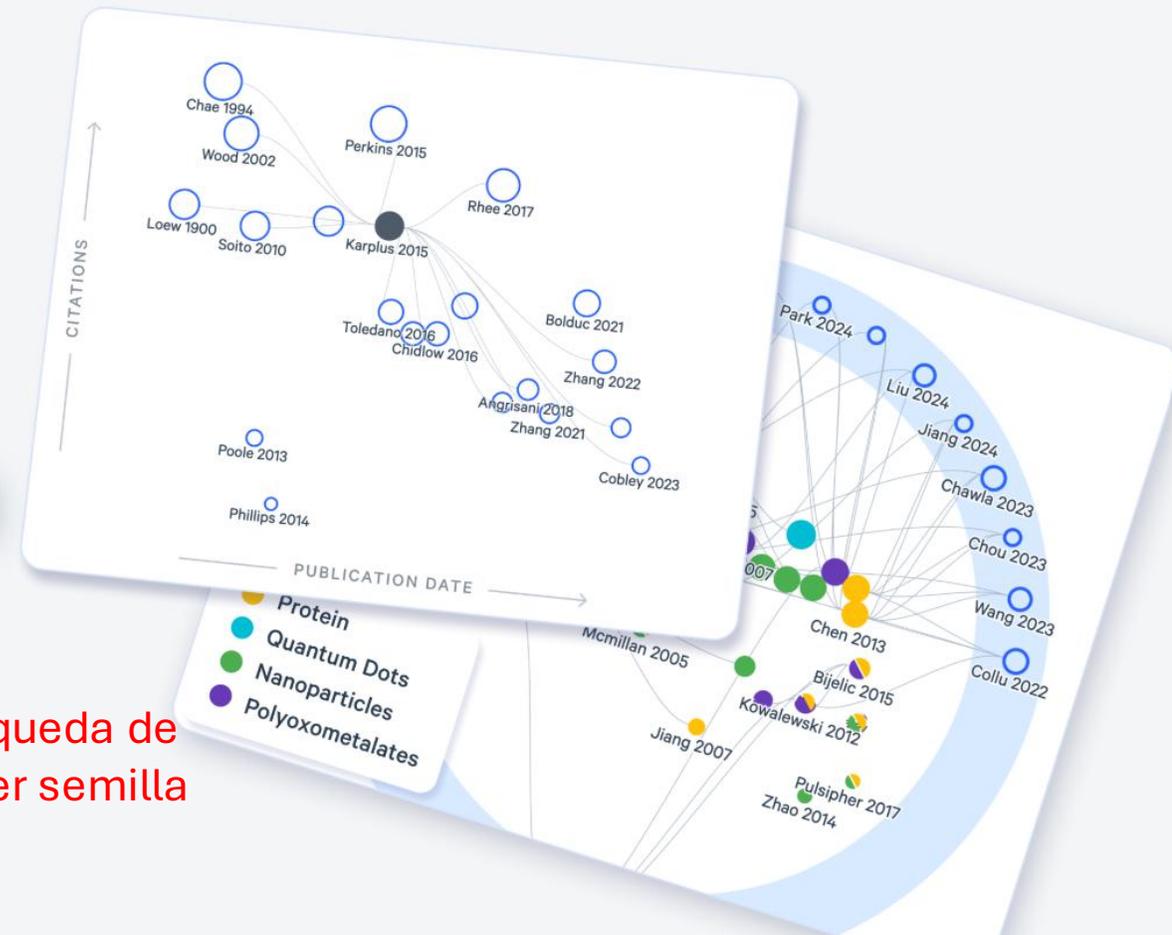
ef@writewise.io  
Free Account

Upgrade to Litmaps Pro

# Find and understand research better

Search using keywords, titles, authors, or DOIs

Browse Learning Resources



<https://www.litmaps.com/>

# Búsqueda de paper semilla

The screenshot displays the Litmaps web interface. On the left is a sidebar with navigation options: 'Litmaps', 'Search...', 'IMPORT', 'SYNC', 'Default Workspace', 'LITMAPS', 'TAGS' (including 'Musculo en peces' and 'Review'), 'Workspace Articles', 'Recent', 'Support', and 'What's New'. At the bottom of the sidebar is a user profile for 'ef@writewise.io' and an 'Upgrade to Litmaps Pro' button.

The main content area shows a search bar with the URL 'https://doi.org/10.1016/j.ygcen.2013.06.009'. Below the search bar are filters for 'Most Relevant', 'Since 2025', 'Since 2024', 'Since 2021', and 'Custom'. A note states: 'Showing results from Semantic Scholar. Always use this search engine'.

The search results show a card for the paper: 'Fuentes, 2013', 'Regulation of skeletal muscle growth in fish by the growth hormone--insulin-like growth factor system.', 'General and Comparative Endocrinology'. It has '141 REFERENCES' and '297 CITATIONS'. A red arrow points to the title with the text 'Paper semilla'. Below the card are options to 'Tag' and 'Add to Litmap', with a tag 'Musculo en peces' already added.

To the right of the search results is a section titled 'Select an Article' with the text: 'You'll be able to Explore Related Articles on a new Litmap.' Below this is a network diagram showing the 'Karplus 2015' paper as a central node (black circle) connected to several other papers (blue circles): 'Chae 1994', 'Wood 2002', 'Perkins 2015', 'Rhee 2017', 'Loew 1900', 'Soito 2010', 'Toledano 2016', 'Chidlow 2016', 'Angrisani 2018', 'Bolduc 2021', and 'Zhang 2022'. A blue arrow points from the 'Select an Article' text to the network diagram.

At the bottom of the page, there is a pagination indicator: '< 1 - 1 of 1 >'.

# Explorar artículos relacionados

**Litmaps**

Search...

IMPORT SYNC

EF Default Workspace

LITMAPS

You have no Litmaps

TAGS

- Musculo en peces
- Review

Workspace Articles

Recent

Support

What's New

ef@writewise.io  
Free Account

Upgrade to Litmaps Pro

https://doi.org/10.1016/j.ygcen.2013.06.009

Most Relevant Since 2025 Since 2024 Since 2021 Custom

Showing results from Semantic Scholar. Always use this search engine

Fuentes, 2013

Regulation of skeletal muscle growth in fish by the growth hormone--insulin-like growth factor system.

General and Comparative Endocrinology

141 REFERENCES 1 297 CITATIONS 2

Tag + Add to Litmap

Musculo en peces

Fuentes, 2013 Get PDFs

Regulation of skeletal muscle growth in fish by the growth hormone--insulin-like growth factor system.

General and Comparative Endocrinology

141 REFERENCES 1 297 CITATIONS 2

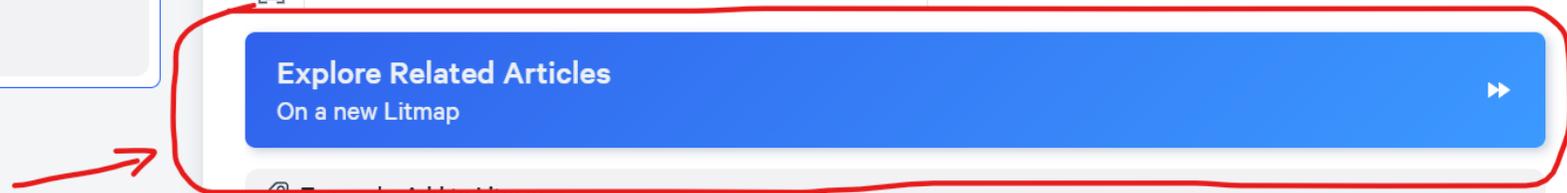
**Explore Related Articles**  
On a new Litmap

Tag + Add to Litmap

Musculo en peces

**Eduardo N. Fuentes** +2... Björn Thrandur Björnsson

DOI: 10.1016/j.ygcen.2013.06.009



# Exploración de red de papers (antiguos y nuevos)

< Fuentes, 2013 + Add Monitor ARTICLES

## Explore Related Articles

Filter Date, Keyword, Journal, and more...

How are these results calculated? Advanced

Ramos-Pinto, 2019

Dietary Creatine Supplementation in Gilthead Seabream (*Sparus aurata*) Increases Dorsal Muscle Area and the Expression of myod1 and capn1 Genes

Front. Endocrinol.

74 REFERENCES ● 1 19 CITATIONS

Tag + Add to Litmap

Refine Search: More Like This

Martínez, 2016

Oral administration of the growth hormone secretagogue-6 (GHRP-6) enhances growth and non-specific immune responses in tilapia (*Oreochromis* sp.)

Aquaculture

< 1 - 20 of 20 >

The network graph shows a central node 'Fuentes, 2013' (green circle) with a red arrow pointing to it. It is connected to 19 other nodes (blue circles) representing papers that cite it. The nodes are arranged in a fan shape, with lines representing citation links. The nodes include: Hill, 2000; Fuentés, 2011; Safian, 2012; Liu, 2014; Véléz, 2017; Martínez, 2016; Ramos-Pinto, 2019; Strobel, 2020; Irm, 2020; Bersin, 2023; Amaral, 2012; Georgiou, 2013; Guo, 2016; Ayuningthias, 2021; Bedir, 2025; Wang, 2025. At the bottom, a horizontal arrow points right, labeled 'MORE RECENTLY PUBLISHED'. On the right side, a vertical arrow points up, labeled 'MORE CITATIONS'. A red arrow also points to this vertical arrow. In the top right corner, there is a legend for 'Recommendations' with 'Placement: Standard\*' and a 'More Like This' button.

# Cambio de ejes para distinta visualización

Litmaps

< Fuentes, 2013

+ Add Monitor ARTICLES

Search...

IMPORT SYNC

EF Default Workspace

LITMAPS

Fuentes, 2013. Litmap curso

Fuentes, 2013

TAGS

Musculo en neces

Workspace Articles

Recent

Support

What's New

EF ef@writewise.io  
Free Account

Upgrade to Litmaps Pro

About X Axis **Y Axis** Size Advanced

Cite Count

Articles with a high citation count generally have had a more significant impact on their field.

Interpolation

Logarithmic

Ref Count

Articles with particularly high reference counts are likely to be Review Articles.

Publication Date

Recent articles are generally more accurate than old articles

Momentum

This helps identify impactful younger articles which may still be accruing citations.

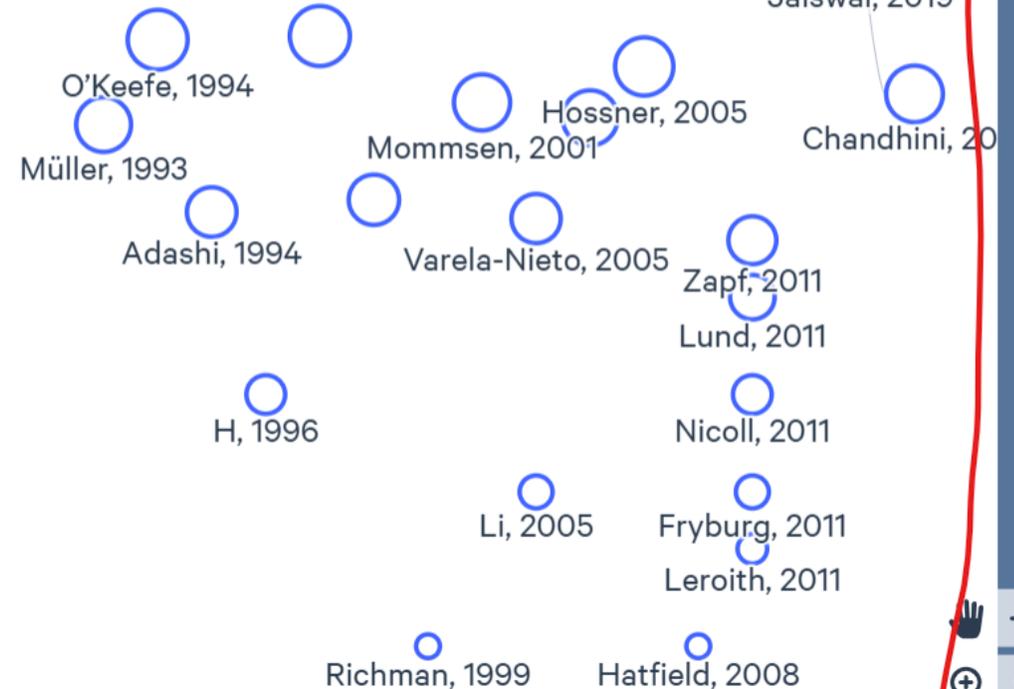
Save as default

Reset to default

Explore Related Articles

Filter Date, Keyword, Journal, and more...

How are these results calculated? Advanced



# Exploración de red de papers (distintas graficas)

< Fuentes, 2013 + Add 🔔 Monitor 📄 📄 ARTICLES ⋮

## Explore Related Articles

🔍 Filter Date, Keyword, Journal, and more... How are these results calculated? Advanced

Ramos-Pinto, 2019 📄 PDF

Dietary Creatine Supplementation in Gilthead Seabream (*Sparus aurata*) Increases Dorsal Muscle Area and the Expression of *myod1* and *capn1* Genes

Front. Endocrinol.

74 REFERENCES ● 1 19 CITATIONS

🏷️ Tag + Add to Litmap

Refine Search: ✓ More Like This 🗑️

Martínez, 2016

Oral administration of the growth hormone secretagogue-6 (GHRP-6) enhances growth and non-specific immune responses in tilapia (*Oreochromis* sp.)

Aquaculture

< 1 - 20 of 20 >

RESULTS

Hill, 2000 Amaral, 2012 Jaffe, 2013 Liu, 2014 Martínez, 2016 Vélez, 2017 Strobel, 2020 Bedir, 2021

Fuentes, 2013

MORE RECENTLY PUBLISHED →

Recommendations  
Placement: Side by Side

Standard

Ring

Side by Side

By Author

Automatic\*  
🔧 Apply the best mode for your Explore Settings

👤 🎯  
🔍 🔍  
📄 📄

# Exploración de red de papers (distintas búsquedas)

The screenshot displays the Litmaps interface for a workspace named 'Fuentes, 2013'. The main area features a network graph of papers, with 'Fuentes, 2013' highlighted in green. Other papers in the network include Jaiswal, 2019; Chandhini, 2021; Spagnoli, 1996; Mommsen, 2001; Yu, 2005; Hossner, 2005; Yang, 1999; Varela-Nieto, 2005; Zapf, 2011; Lund, 2011; Nicoll, 2011; Fryburg, 2011; Leroith, 2011; Li, 2005; Richman, 1999; Hatfield, 2008; and H, 1996. A red box highlights the 'Similar Text' filter option in the 'Explore Related Articles' panel. A tooltip explains that this search uses an AI Large Language Model to find similar titles and abstracts. A red arrow points to the 'Apply' button. The interface also shows a search bar, filters for date, keyword, and journal, and a sidebar with workspace details and tags like 'Musculo en peces' and 'Review'.

**Similar Text**

Search for similar titles and abstracts to the articles added to this Litmap.

We use an AI Large Language Model to detect other articles in our database with semantically similar abstracts and/or titles.

This technique uses an AI Large Language Model.

[Read more about this search algorithm](#)

Apply

Metabolism by Growth Hormone

237 REFERENCES | 2 CITATIONS

Tag + Add to Litmap

Refine Search:  More Like This

1 - 20 of 99

MORE RECENTLY PUBLISHED

MORE CITATIONS

# Filtros de búsqueda por año

< Fuentes, 2013

+ Add Monitor ARTIC

## Explore Related Articles

Filter Date, Keyword, Journal, and more...

How are these results calculated? Advanced

Nornberg, 2016

GH indirectly enhances the regeneration of transgenic zebrafish fins through IGF2a and IGF2b

Transgenic Research

34 REFERENCES 1 8 CITATIONS

Tag + Add to Litmap

Refine Search:

More Like This

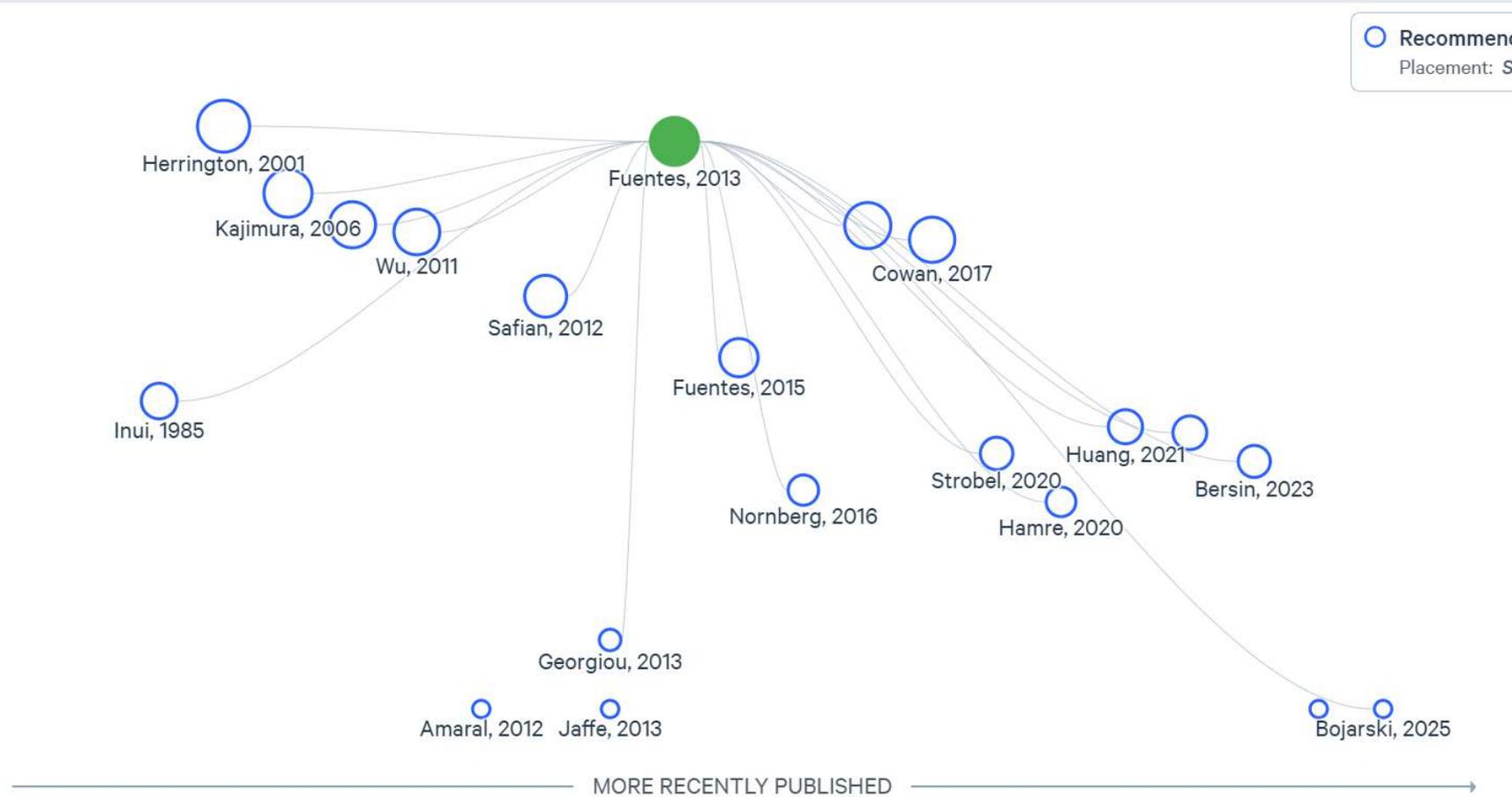
Huang, 2021

Heterozygous depletion of pik3r1 improves growth and feed conversion efficiency in Gibel carp (*Carassius gibelio*)

33 REFERENCES 1 16 CITATIONS

Tag + Add to Litmap

< 1 - 20 of 20 >



# Relaciones entre papers dentro del grafo

**Litmaps**

Search...

IMPORT SYNC

EF Default Workspace

LITMAPS

Fuentes, 2013

Fuentes, 2013

TAGS

Musculo en peces

Review

Workspace Articles

Recent

Support

What's New

ef@writewise.io  
Free Account

Upgrade to Litmaps Pro

< Fuentes, 2013

### Explore Related Articles

Filter Date, Keyword, Journal, and more...

How are these results calculated? Advanced

Zapf, 2011

Insulin-Like Growth Factor I Actions on Somatic Growth

189 REFERENCES | 17 CITATIONS

Tag + Add to Litmap

Refine Search: More Like This

Fryburg, 2011

The Regulation of Amino Acid and Protein Metabolism by Growth Hormone

237 REFERENCES | 2 CITATIONS

Tag + Add to Litmap

Refine Search: More Like This

1 - 20 of 99



# Encontrar papers similares de manera automática

**Litmaps**

Search...

IMPORT SYNC

EF Default Workspace

LITMAPS

Fuentes, 2013

TAGS

- Musculo en peces
- Review

Workspace Articles

Recent

Support

What's New

ef@writewise.io  
Free Account

Upgrade to Litmaps Pro

< Fuentes, 2013

## You're all set

Monitoring is active, but hasn't run yet. We'll typically scan for new articles once a week, as our database is updated.

We'll email you when we find newly published related articles.

Edit Monitor Settings

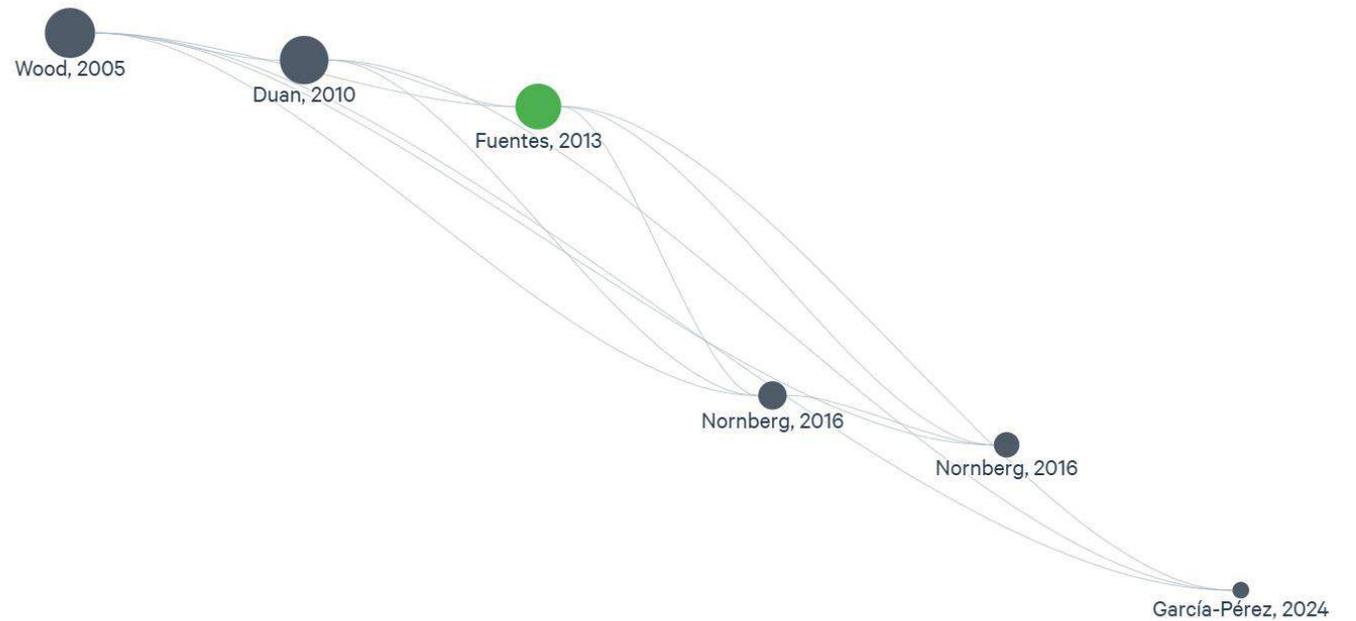
Back

+ Add

Monitor

ARTICLES

T



MORE RECENTLY PUBLISHED

MORE CITATIONS



# Encontrar papers similares de manera automática

< Fuentes, 2013

Apply "More Like This" when tagging    
 When enabled, any articles you tag will be automatically added to the Litmap.   
 Done

+ Add Monitor ARTIO

Explore Related Articles   
 Filter Date, Keyword, Jou

How are these results calculated? [Advanced](#)

Recommendation Placement: S

Nodes in the graph (from left to right):  
Inui, 1985  
Herrington, 2001  
Kajimura, 2006  
Wu, 2011  
Safian, 2012  
Amaral, 2012  
Georgiou, 2013  
Jaffe, 2013  
Fuentes, 2013 (Central Node)  
Fuentes, 2015  
Nornberg, 2016  
Cowan, 2017  
Strobel, 2020  
Hamre, 2020  
Huang, 2021  
Bersin, 2023  
Bojarski, 2025

MORE RECENTLY PUBLISHED

# Filtros de búsqueda por año

The image shows a screenshot of the Litmaps application interface. A modal window titled "Add Articles to Litmap" is open in the center. The search bar within this modal contains the text "fish muscle growthl". Below the search bar, there are five filter buttons: "Most Relevant", "Since 2025", "Since 2024", "Since 2021", and "Custom". Red arrows point to the "Most Relevant", "Since 2025", and "Custom" buttons. In the top right corner of the modal, there is a red "ADD" label with a plus sign and a close button (X). The background shows the Litmaps sidebar with navigation options like "LITMAPS", "Fuentes, 2013", and "TAGS".

# Filtros avanzados (solo versión Premium)

The screenshot displays the Litmaps interface for exploring related articles. The main heading is "Explore Related Articles" for the article "Fuentes, 2013". A red box highlights the "Filter Date, Keyword, Journal, and more..." button. An "Explore Settings" panel is open, showing various filters:

- Published Between:** YYYY - YYYY
- Title + Abstract Keywords:** Enter keyword query... (with a Tips icon)
- Authors:** Enter author name(s)... (with a Tips icon)
- Journals:** Enter a journal or publication title... (with a Tips icon)
- H-Index:** 0 - 1500
- SJR Quartiles:** 1, 2, 3, 4 (all checked)

A "Load" button is visible in the top right of the settings panel. The network graph on the right shows "Fuentes, 2013" as the central node (green circle), connected to several other nodes (blue circles) representing related articles:

- Hill, 2000
- Fuentes, 2011
- Safian, 2012
- Liu, 2014
- Vélez, 2017
- Martínez, 2016
- Ramos-Pinto, 2019
- Irm, 2020
- Strobel, 2020
- Georgiou, 2013
- Guo, 2016
- Amaral, 2012
- Jaffe, 2013
- Ayuning

At the bottom right of the graph, there is a label "MORE RECENTLY PUBLISHED" with a right-pointing arrow.

# Ejercicio Práctico (mapeo bibliográfico CON Litmaps)

1. Encontrar paper Semilla (paper altamente relevante en su área de estudio, habitualmente un review)
2. Ocupar Litmaps y encontrar papers relacionados y conectados al paper semilla.
3. Descubrir nuevos papers, sobre todo papers contemporáneos (mas recientes con respecto al paper semilla)

# Suscribirse a Litmaps Premium

<https://litmaps.com/?via=eduardo-nicolas>

**Código de descuento (40%). Valido solo ocupando  
el link de arriba: **pdrqrwx40****

# Litmaps

Search...

IMPORT SYNC

BE Default Workspace

LITMAPS

You have no Litmaps

TAGS

You have no Tags

Workspace Articles

Recent

Support

What's New

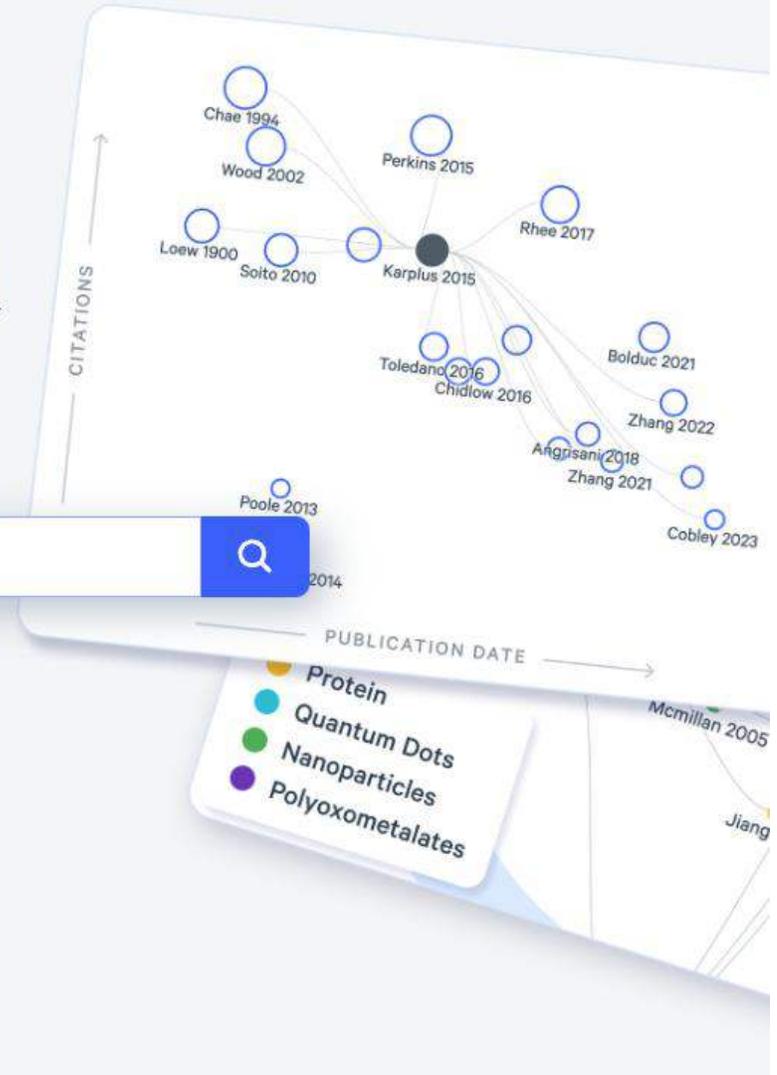
BE bernardino.contreras.  
Free Account

Upgrade to Litmaps Pro

## Find and understand research better

Search using keywords, titles, authors, or DOIs

Browse Learning Resources



1. Hacer clic en 'Upgrade'

<https://litmaps.com/?via=eduardo-nicolas>

# Upgrade to Litmaps Pro

Standard License      Educational License **75% off!**

USD       Monthly \$12.50 / month       Annual \$10 / month

CL Researchers in Chile are eligible for 40% off! Use code pdlugjuw40 at checkout. Copy

[Read more about Country Discounts](#)

Proceed to Checkout\*  
\$120 USD / year >

\* Your email address isn't from an education provider we have on

2. Hacer clic en "Educational Licence"

3. Escoger plan mensual o anual

4. Copiar código de descuento adicional de un 40%

5. Hacer clic en "Proceed to Checkout" para suscribirse

## SOLO EN EL CASO DE NO HABER INGRESADO UN EMAIL INSTITUCIONAL

6. Cambiar a email institucional o mencionar que no tiene email institucional

The screenshot shows a verification form with the following elements:

- Header:** A building icon and the text "Your email address isn't from an education provider we have on record."
- Radio Buttons:** Two options are shown: "I have an email address from my education provider" (unselected) and "I don't have an email address from my education provider" (selected).
- Text Field:** A prompt asks the user to provide details on how they use Litmaps in an educational capacity. A text box contains the example: "My institutional email is not working properly, but I am an academic. This my website: [https://scholar.google.com/citations?user=86\\_quvEAAAAJ&hl=en](https://scholar.google.com/citations?user=86_quvEAAAAJ&hl=en)".
- Disclaimer:** A note states: "We may follow up asking for further evidence. Your license may be revoked if we aren't able to verify your educational situation."
- Button:** A blue button labeled "I Understand, Continue to Checkout >" is at the bottom.

6.

7.

7. Dar razón de porque no tiene email institucional. Dar prueba de que es un académico, por ejemplo, una pagina web.

8.

8. Continuar al pago

9. Agregar código de descuento copiado anteriormente

pdrrqwxx40

← Litmaps

Suscribirse a Litmaps Pro – Educational

72,00 US\$ por año

Litmaps Pro – Educational 120,00 US\$  
Se factura cada año

Subtotal 120,00 US\$

PDHFJBOL40 X -48,00 US\$  
Descuento del 40 %

Impuesto ⓘ 0,00 US\$

Total a pagar hoy 72,00 US\$

### Pago con tarjeta

Correo electrónico ef@writewise.io

#### Información de la tarjeta

1234 1234 1234 1234

MM / AA CVC

#### Nombre del titular de la tarjeta

Nombre completo

#### País o región

Chile

Guardar mis datos de forma segura para un proceso de compra en un clic  
Paga más rápido en Litmap Limited y en todos los comercios que acepten Link.

10. Agregar datos de tarjeta de crédito

11. Suscribirse

¡Listo! Ya están suscritos a la versión premium de

**Módulo 3:**

**Otras herramientas**

 New Collection

 New Category

 Connect to Zotero

---

∨ Uncategorized

+ Collection

*No collections*

---

∨ **Shared with Me**

*No collections*

<https://www.researchrabbit.ai/>

-  New Collection
-  New Category
-  Connect to Zotero

Uncategorized

+ Collection

 Fish muscle growth 0 

Shared with Me

No collections

Filter Custom

Abstracts  Comments

Select All

### Fish muscle growth



 Similar Work

 Earlier Work

 Later Work

EXPLORE PEOPLE

 These Authors

 Suggested Authors

EXPLORE OTHER CONTENT

 Linked Content

EXPORT PAPERS

BibTeX RIS CSV

PUBLIC COLLECTION

SHAREABLE LINK 

COLLABORATORS 

 New Collection

 New Category

 Connect to Zotero

 Filter

Custom

Abstracts  Comments

[Select All](#)

 **Fish muscle growth**

 Similar Work

 Earlier Work

 Later Work

## Add a paper you know and love



Regulation of skeletal muscle growth in fish by the growth hormone – Insulin-like growth factor system

[Search](#)



Connect to Zotero

Or Upload File:

[+ BibTeX](#)

[+ RIS](#)

PUBLIC COLLECTION

SHAREABLE LINK

[Copy](#)

COLLABORATORS

[Edit](#)

[Donate](#)

+ New Collection

+ New Category

+ Connect to Zotero

Filter

Custom

Abstracts  Comments

Select All

● Fish muscle growth

Similar Work

Earlier Work

Later Work

## Choose a Search Provider

**Biomedical &  
Life Sciences**

Powered by PubMed

**All Subject Areas**

Powered by Semantic Scholar

PUBLIC COLLECTION

SHAREABLE LINK

Copy

COLLABORATORS

Edit

Donate

+ New Collection

Filter

Custom

Similar Work

New Category

Abstracts  Comments

Earlier Work



Regulation of skeletal muscle growth in fish by the growth hormone – Insulin-like growth factor system

Search

Biomedical &  
Life Sciences

All Subject Areas

## Choose Papers to Power ResearchRabbit's Recommendations

Results powered by SemanticScholar

Fuentes Björnsson 2013

**Regulation of skeletal muscle growth in fish by the growth hormone--insulin-like growth factor system.**

General and Comparative Endocrinology

Add to Collection

COLLABORATORS

Edit

- New Collection
- New Category
- Connect to Zotero

- Uncategorized
- [+ Collection](#)
  - Fish muscle growth** 1

Shared with Me

No collections

Filter

Abstracts  Comments

[Select All](#)

**Fish muscle growth**

Fuentes ... Björnsson 2013  
1, 225

**Regulation of skeletal muscle growth in fish by the growth hormone - Insulin-like growth factor system**

General and Comparative Endocrinology

Add Papers

- Similar Work 1879
- All References 140
- All Citations 223

EXPLORE PEOPLE

- These Authors 8
- Suggested Authors 8

EXPLORE OTHER CONTENT

- Linked Content

EXPORT PAPERS

[BibTeX](#) [RIS](#) [CSV](#)

PUBLIC COLLECTION

SHAREABLE LINK [Copy](#)

COLLABORATORS [Edit](#)

# Todos los papers similares

Add to Other Collection

EXPLORE PAPERS

- Similar Work **1879**
- All References **140**
- All Citations **223**

EXPLORE PEOPLE

- These Authors **8**
- Suggested Authors **8**

EXPLORE OTHER CONTENT

- Linked Content

EXPORT PAPERS

BibTeX RIS CSV

PUBLIC COLLECTION

### Similar Work

Filter  Relevance

Abstracts  Comments [Select All](#)

Castillo ... Gutiérrez **2004**  
↓ 179

**Metabolic and mitogenic effects of IGF-I and insulin on muscle cells of rainbow trout.**  
*American Journal of Physiology-regulatory Integrative and Comparative Physiology*

The relative function of IGF-I and insulin on fish muscle metabolism and growth has been investigated by the isolation and culture at different stages (myoblasts at day 1, myocytes at day 4, and my...

Codina ... Gutiérrez **2008**  
↓ 95

**Metabolic and mitogenic effects of IGF-II in rainbow trout (Oncorhynchus mykiss) myocytes in culture and the role of IGF-II in the PI3K/Akt and MAPK signalling**

[Connections](#)  
Click to Hide

Connections between your collection and 50 papers

Graph Type: **Network** Timeline

Labels: **First Author** Last Author

Filter these items

Zoom Out Fit All Zoom In

# Todos los autores citados en el paper

The image shows a user interface for exploring author networks. On the left, a sidebar contains navigation options: 'EXPLORE PEOPLE' with 'These Authors' (279) and 'Suggested Authors' (793); 'EXPLORE OTHER CONTENT' with 'Linked Content' (110); and 'EXPORT PAPERS' with options for BibTeX, RIS, and CSV. The main area is titled 'These Authors' and features a filter dropdown set to 'Relevance', checkboxes for 'Abstracts' and 'Comments', and a 'Select All' button. Below this, a list of authors is displayed, including Joaquim Gutiérrez (University of Barcelona, 178 publications, 6160 citations), Joaquím Gutiérrez (? publications, ? citations), Isabel Navarro (University of Barcelona, 171 publications, 5231 citations), Isabel Navarro (? publications, ? citations), and Encarnación Capilla. A 'Connections' button is at the bottom of the list. On the right, a network graph titled 'Connections between 46 authors' is shown, with a 'Filter these items' input field. The graph consists of red circular nodes connected by lines, representing the relationships between the authors. At the bottom of the graph area are controls for 'Zoom Out', 'Fit All', 'Zoom In', and a download icon.

# Todos los autores citados mas relevantes en el paper

50 Selected Papers

Add to:  
● Fish muscle growth

Add to Other Collection

EXPLORE PAPERS

- Similar Work **1744**
- Earlier Work **485**
- Later Work **3004**

EXPLORE PEOPLE

- These Authors **279**
- Suggested Authors 793**

EXPLORE OTHER CONTENT

- Linked Content **110**

EXPORT PAPERS

### Suggested Authors

Filter Relevance

Abstracts  Comments

Select All

**Joaquim Gutiérrez**  
University of Barcelona  
178 publications 6160 citations

**Isabel Navarro**  
University of Barcelona  
171 publications 5231 citations

**Cunming Duan**  
University of North Carolina at Chapel Hill  
130 publications 6900 citations

**Encarnación Capilla**  
University of Barcelona  
103 publications 2862 citations

Connections between 22 authors

Filter these items

Network graph showing connections between 22 authors. Nodes are labeled with author names and connected by lines representing citations or collaborations. The graph is a complex network with many interconnected nodes.

Zoom Out Fit All Zoom In

Connections Click to Hide





# Explore academic papers in a visual graph

Search by keywords, paper title, DOI or another identifier

Build a graph

<https://www.connectedpapers.com/>

Showing paper suggestions for "Regulation of skeletal muscle growth in fish by the growth hormone – Insulin-like growth factor system".

Choose a paper to build a graph:

Search powered by Semantic Scholar

### Regulation of skeletal muscle growth in fish by the growth hormone--insulin-like growth factor system.

E. Fuentes, J. Valdés, A. Molina, B. Björnsson

General and Comparative Endocrinology 2013.

280 Citations, 140 References



 Save

S2 TL;DR: A comprehensive overview on the GH-IGF system regulating fish skeletal muscle growth is presented, suggesting other of alternative signaling pathways regulating the transcription of this growth factor.

[Show more](#)

Regulation of skeletal muscle growth in fish by the growth hormone--i...

Prior

Derivative

List

Filters

More

Origin paper

Regulation of skeletal muscle growth in fish by the growth...

E. Fuentes, J. Valdés, A. Molina...2013

Understanding fish muscle growth regulation to optimize...

Emilio J. Vélez, Esmail Lutfi, Sh... 2017

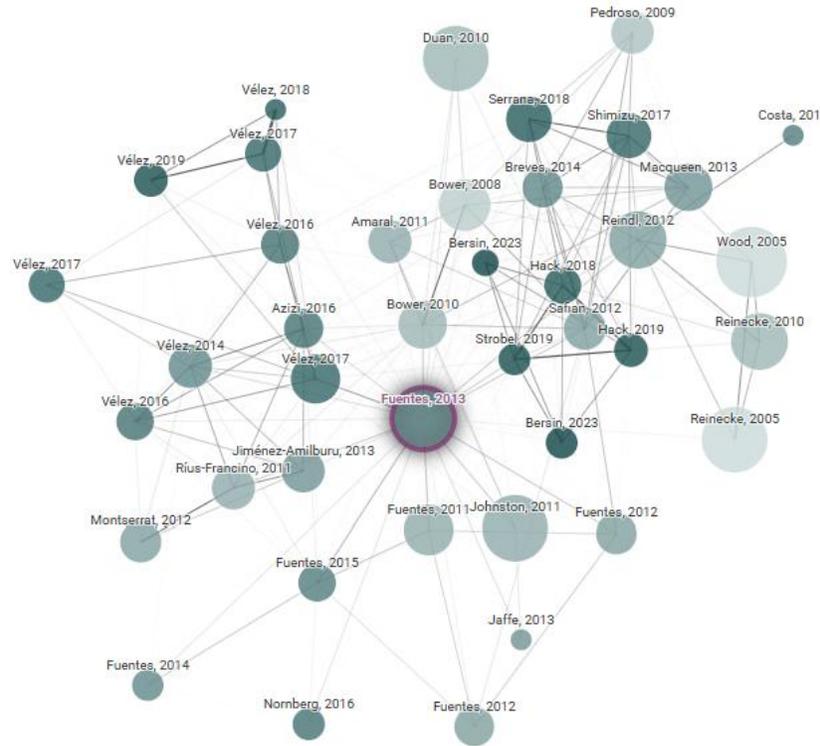
The TORC1/P70S6K and TORC1/4EBP1 signaling...

E. Fuentes, I. Einarsdóttir, R.... 2015

IGF-I/PI3K/Akt and IGF-I/MAPK/ERK pathways in vivo i...

E. Fuentes, B. Björnsson, J.... 2011

Inherent growth hormone resistance in the skeletal muscl...



Regulation of skeletal muscle growth in fish by the growth hormone--insulin-like growth factor system.

E. Fuentes + 2 authors B. Björnsson

2013, General and Compara... ..

280 Citations Save

Open in: PDF +3 more

S2 TL;DR: A comprehensive overview on the GH-IGF system regulating fish skeletal muscle growth is presented, suggesting other of alternative signaling pathways regulating the transcription of this growth



Regulation of skeletal muscle growth in fish by the growth hormone--insulin-like growth factor sy...

Prior

Derivative

List

Filters

More

List view

Download

Title	Authors	Year	Citations	References	Similarity to origin
Regulation of skeletal muscle growth in fish by t...	E. Fuentes, J. Valdés, A. Molina, B. Björnsson	2013	280	140	100
Understanding fish muscle growth regulation to...	Emilio J. Vélez, Esmail Lutfi, Sh. Azizi, M. Perelló, C. Salmerón, Miquel Riera-...	2017	118	159	32.2
The TORC1/P70S6K and TORC1/4EBP1 signaling...	E. Fuentes, I. Einarsdóttir, R. Paredes, Christian Hidalgo, J. Valdés, B....	2015	29	44	27
IGF-I/PI3K/Akt and IGF-I/MAPK/ERK pathways in...	E. Fuentes, B. Björnsson, J. Valdés, I. Einarsdóttir, Belen Lorca, M. Alvarez, A....	2011	122	72	22.9
Inherent growth hormone resistance in the skeletal...	E. Fuentes, I. Einarsdóttir, J. Valdés, M. Alvarez, A. Molina, B. Björnsson	2012	44	59	21.2
Dynamic transcriptional regulation of...	D. Safian, E. Fuentes, J. Valdés, A. Molina	2012	54	69	20.8
Differential effects on proliferation of GH and IG...	Mónica Ríus-Francino, L. Acerete, Vanesa Jiménez-Amilburu, E. Capilla, I. Navarro,...	2011	61	42	20.7
Peripheral regulation of the growth hormone-insulin-lik...	Katie M. Reindl, M. Sheridan	2012	237	223	20.6

Regulation of skeletal muscle growth in fish by the growth hormone--insulin-like growth factor system.

E. Fuentes + 2 authors B. Björnsson

2013, General and Comparative Endocrinology

280 Citations

Save

Open in: PDF, Print, DOI, Google Scholar, Mendeley

S2 TL;DR: A comprehensive overview on the GH-IGF system regulating fish skeletal muscle growth is presented, suggesting other of alternative signaling pathways regulating the transcription of this growth factor.

Origin paper
Regulation of skeletal muscle growth in fish by the growth hormone--insulin-like...
E. Fuentes, J. Valdés, A. Molina, B.... 2013

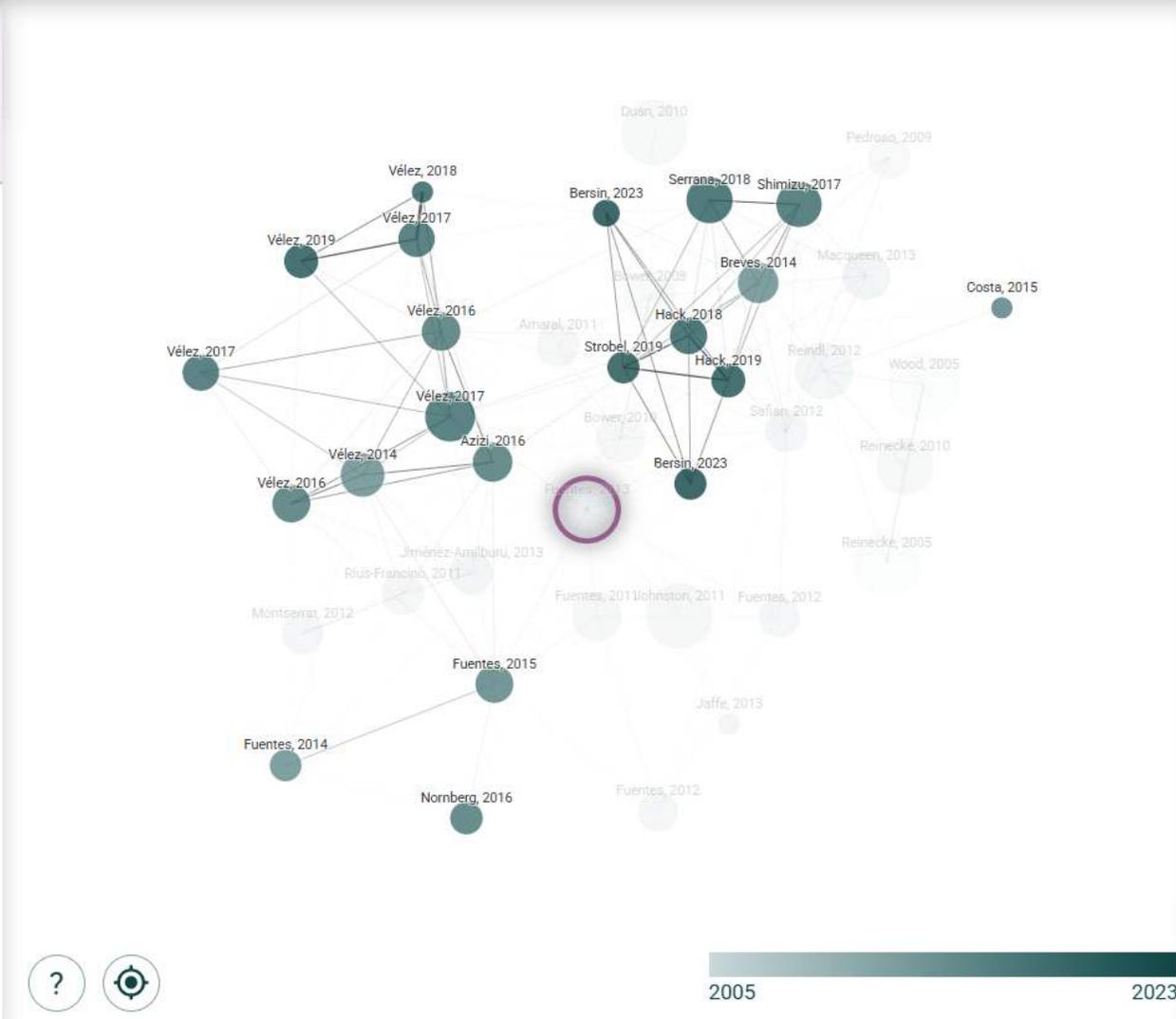
Understanding fish muscle growth regulation to optimize aquaculture...
Emilio J. Vélez, Esmail Lutfi, Sh. Azizi, M.... 2017

The TORC1/P70S6K and TORC1/4EBP1 signaling pathways have a stronger...
E. Fuentes, I. Einarsdóttir, R. Paredes,... 2015

Effects of food deprivation on plasma insulin-like growth factor-1 (Igf1) and Igf...
Jackson S Strobel, Nicole L Hack, Kevin T... 2019

Contribution of in vitro myocytes studies to understanding fish muscle physiology.
Emilio J. Vélez, Esmail Lutfi, Sheida Azizi, ... 2016

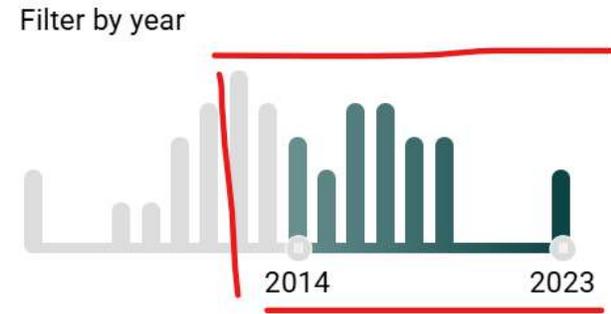
IGF-I and IGF-II effects on local IGF system and signaling pathways in gilthead sea...
Sheida Azizi, M. Nematollahi, B. Mojazi... 2016



Filters

Filter by keyword...

- PDF available 0
Open access 19
Code available 0



Clear filters Apply

Regulation of skeletal muscle growth in fish by the growth hormone--insulin-like growth factor sy...

Prior

Derivative

List

Filters

More

Origin paper

Regulation of skeletal muscle growth in fish by the growth hormone--insulin-like...  
E. Fuentes, J. Valdés, A. Molina, B.... 2013

Understanding fish muscle growth regulation to optimize aquaculture...  
Emilio J. Vélez, Esmail Lutfi, Sh. Azizi, M.... 2017

The TORC1/P70S6K and TORC1/4EBP1 signaling pathways have a stronger...  
E. Fuentes, I. Einarsdóttir, R. Paredes,... 2015

IGF-I/PI3K/Akt and IGF-I/MAPK/ERK pathways in vivo in skeletal muscle are...  
E. Fuentes, B. Björnsson, J. Valdés, I.... 2011

Inherent growth hormone resistance in the skeletal muscle of the fine flounder is...  
E. Fuentes, I. Einarsdóttir, J. Valdés, M.... 2012

Dynamic transcriptional regulation of autocrine/paracrine igfbp1, 2, 3, 4, 5, and ...  
D. Safian, E. Fuentes, J. Valdés, A. Molina 2012

Prior works

Download

These are papers that were most commonly cited by the papers in the graph.

This usually means that they are important seminal works for this field and it could be a good idea to get familiar with them.

Selecting a prior work will highlight all graph papers referencing it, and selecting a graph paper will highlight all referenced prior work.

Title	Last author	Year	Citations	Graph citations
Coordinated regulation of the GH/IGF system...	N. Montserrat	2006	200	20
Insulin-like growth factor binding protein 2 is a...	Kasiani C. Pozios	1999	128	18
Roles of insulin-like growth factor (IGF)...	Qijin Xu	2005	356	18
Effect of refeeding on IGFI, IGFII, IGF receptor...	P. Rescan	2003	204	17
Role of insulin, insulin-like growth factors, and...	J. Gutiérrez	2007	138	16

Coordinated regulation of the GH/IGF system genes during refeeding in rainbow trout (*Oncorhynchus mykiss*).

J. Gabillard, B. B. Kamangar, N. Montserrat  
2006, Journal of Endocrinology

200 Citations Save

Open in: PDF, Open in new window, doi, Open in new window, Open in new window

Open graph Add origin

The GH/IGF system is a complex regulation network strongly dependent on nutrient availability. While the effect of starvation on the GH/IGF system has been extensively studied, the time course of events leading to the restoration of GH/IGF system activity after starvation is largely unknown. We, therefore, measured the plasma levels of GH, IGF-I and IGF-II and the expression of the GH/IGF system in liver and muscle. Starvation increased

Regulation of skeletal muscle growth in fish by the growth hormone--insulin-like growth factor sy...

Prior

Derivative

List

Filters

More

Origin paper

Regulation of skeletal muscle growth in fish by the growth hormone--insulin-like...

E. Fuentes, J. Valdés, A. Molina, B.... 2013

Understanding fish muscle growth regulation to optimize aquaculture...

Emilio J. Vélez, Esmail Lutfi, Sh. Azizi, M.... 2017

The TORC1/P70S6K and TORC1/4EBP1 signaling pathways have a stronger...

E. Fuentes, I. Einarsdóttir, R. Paredes,... 2015

IGF-I/PI3K/Akt and IGF-I/MAPK/ERK pathways in vivo in skeletal muscle are...

E. Fuentes, B. Björnsson, J. Valdés, I.... 2011

Inherent growth hormone resistance in the skeletal muscle of the fine flounder is...

E. Fuentes, I. Einarsdóttir, J. Valdés, M.... 2012

Dynamic transcriptional regulation of autocrine/paracrine igfbp1, 2, 3, 4, 5, and ...

D. Safian, E. Fuentes, J. Valdés, A. Molina 2012

Derivative works

Download

These are papers that cited many of the papers in the graph.

This usually means that they are either surveys of the field or recent relevant works which were inspired by many papers in the graph.

Selecting a derived work will highlight all graph papers cited by it, and selecting a graph paper will highlight all derivative works citing it.

Title	Last author	Year	Citations	Graph references
Cortisol reduces insulin-like growth...	Sean C. Lema	2024	0	14
Insulin-like growth factor-1 (Igf1)...	S. Lema	2023	7	13
Insulin-like growth factor signalling and...	V. Kumar	2021	42	13
Hepatic insulin-like growth-factor binding...	S. McCormick	2016	20	13
Proteome of amino acids or IGF1-...	Bruno OS. Duran	2025	0	10

Understanding fish muscle growth regulation to optimize aquaculture production

Emilio J. Vélez + 10 authors J. Gutiérrez

2017, Aquaculture

118 Citations

Saved

Open in: PDF, Open in new tab, doi, Open in Google Scholar

Open graph + Add origin

S2 TL;DR: The aim of the present review is to summarize the knowledge acquired with the studies about the GH/IGF axis and other hormones regarding their function on the regulation of fish muscle development and growth by reviewing the effect of regulatory molecules on cultured myocytes.

Origin paper

Regulation of skeletal muscle growth in fish by the growth hormone--insulin-like...

E. Fuentes, J. Valdés, A. Molina, B.... 2013

Origin paper

Cortisol reduces insulin-like growth factor-1 (Igf1) and alters liver Igf binding protei...

Hayley Mapes, Janae E. Shew, Henry M.... 2024

Effects of food deprivation on plasma insulin-like growth factor-1 (Igf1) and Igf...

Jackson S Strobel, Nicole L Hack, Kevin T... 2019

Response of the insulin-like growth factor-1 (Igf1) system to nutritional status and...

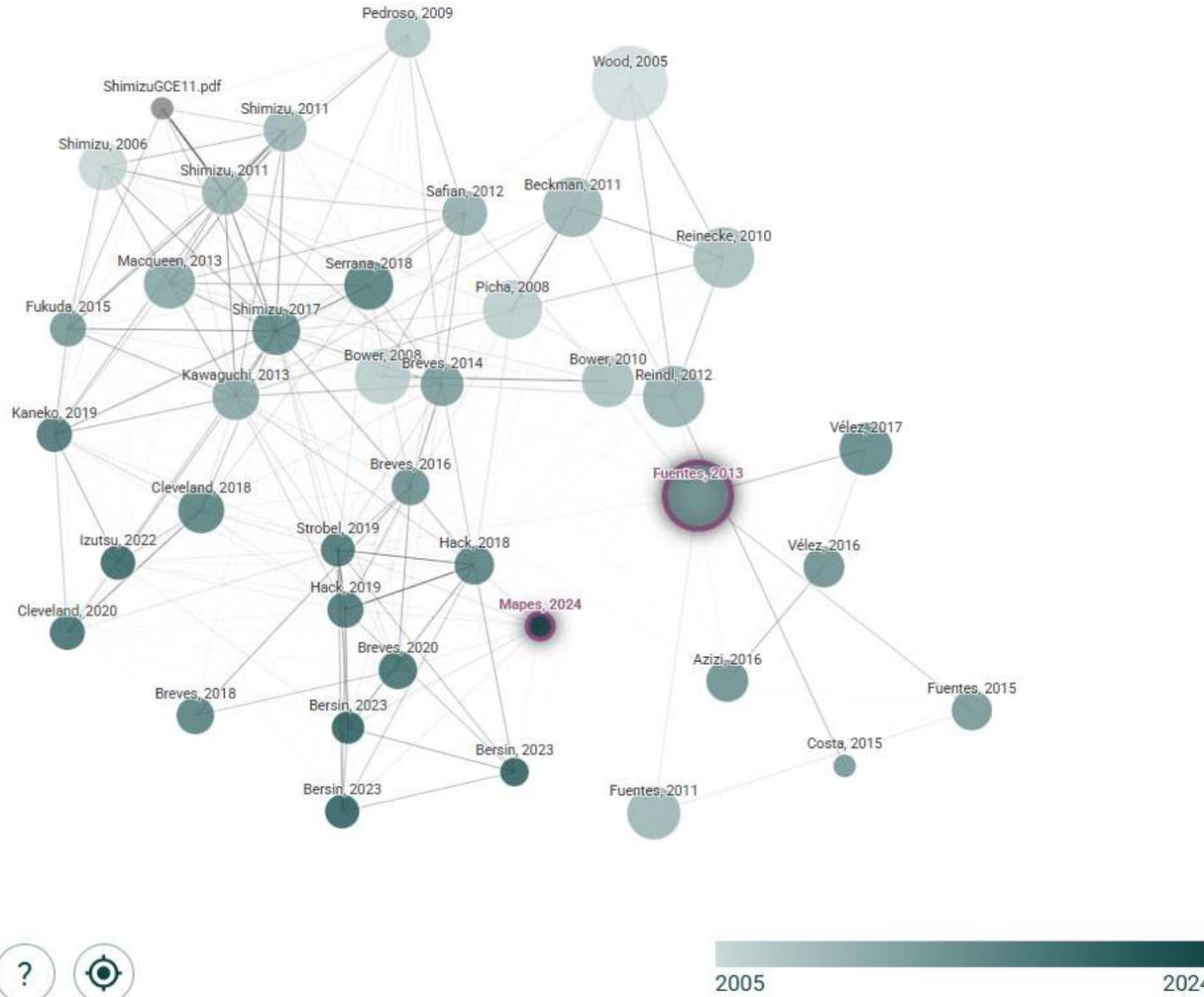
Nicole L Hack, Jackson S Strobel, M.... 2018

Interactions of long-term food ration variation and short-term fasting on insuli...

Nicole L Hack, Kasey L. Cordova, F. L.... 2019

Insulin-like growth factor-1 (Igf1) signaling responses to food consumption after...

Theresa V Bersin, Hayley Mapes, M.... 2023



Regulation of skeletal muscle growth in fish by the growth hormone--insulin-like growth factor system.

E. Fuentes + 2 authors B. Björnsson

2013, General and Comparative Endocrinology

280 Citations

Save

Open in: PDF, Open Access, DOI, Google Scholar, Mendeley

Open graph Remove origin

S2 TL;DR: A comprehensive overview on the GH-IGF system regulating fish skeletal muscle growth is presented, suggesting other of alternative signaling pathways regulating the transcription of this growth factor.

- Origin paper**  
Regulation of skeletal muscle growth in fish by the growth hormone--insulin-like...  
E. Fuentes, J. Valdés, A. Molina, B.... 2013
- Understanding fish muscle growth regulation to optimize aquaculture...  
Emilio J. Vélez, Esmail Lutfi, Sh. Azizi, M.... 2017
- The TORC1/P70S6K and TORC1/4EBP1 signaling pathways have a stronger...  
E. Fuentes, I. Einarsdóttir, R. Paredes,... 2015
- IGF-I/PI3K/Akt and IGF-I/MAPK/ERK pathways in vivo in skeletal muscle are...  
E. Fuentes, B. Björnsson, J. Valdés, I.... 2011
- Inherent growth hormone resistance in the skeletal muscle of the fine flounder is...  
E. Fuentes, I. Einarsdóttir, J. Valdés, M.... 2012
- Dynamic transcriptional regulation of autocrine/paracrine igfbp1, 2, 3, 4, 5, and ...  
D. Safian, E. Fuentes, J. Valdés, A. Molina 2012

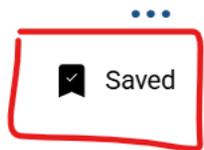
**Derivative works**

Download X

These are papers that cited many of the papers in the graph.  
This usually means that they are **either surveys of the field or recent relevant works** which were inspired by many papers in the graph.  
Selecting a derived work will highlight all graph papers cited by it, and selecting a graph paper will highlight all derivative works citing it.

Title	Last author	Year	Citations	Graph references
Cortisol reduces insulin-like growth...	Sean C. Lema	2024	0	14
Insulin-like growth factor-1 (Igf1)...	S. Lema	2023	7	13
Insulin-like growth factor signalling and...	V. Kumar	2021	42	13
Hepatic insulin-like growth-factor binding...	S. McCormick	2016	20	13
Proteome of amino acids or IGF1-...	Bruno OS. Duran	2025	0	10

**Understanding fish muscle growth regulation to optimize aquaculture production**  
Emilio J. Vélez + 10 authors J. Gutiérrez  
2017, Aquaculture  
118 Citations  
Open in: PDF Open Access DOI Google Scholar  
Open graph Add origin  
S2 TL;DR: The aim of the present review is to summarize the knowledge acquired with the studies about the GH/IGF axis and other hormones regarding their function on the regulation of fish muscle development and growth by reviewing the effect of regulatory molecules on cultured myocytes.



Regulation of skeletal muscle growth in fish by the growth hormone--insulin-like growth factor sy...

Prior

Derivative

Origin paper

Regulation of skeletal muscle growth in fish by the growth hormone--insulin-like...

E. Fuentes, J. Valdés, A. Molina, B.... 2013

Understanding fish muscle growth regulation to optimize aquaculture...

Emilio J. Vélez, Esmail Lutfi, Sh. Azizi, M.... 2017

The TORC1/P70S6K and TORC1/4EBP1 signaling pathways have a stronger...

E. Fuentes, I. Einarsdóttir, R. Paredes,... 2015

IGF-I/PI3K/Akt and IGF-I/MAPK/ERK pathways in vivo in skeletal muscle are...

E. Fuentes, B. Björnsson, J. Valdés, I.... 2011

Inherent growth hormone resistance in the skeletal muscle of the fine flounder is...

E. Fuentes, I. Einarsdóttir, J. Valdés, M.... 2012

Dynamic transcriptional regulation of autocrine/paracrine igfbp1, 2, 3, 4, 5, and ...

D. Safian, E. Fuentes, J. Valdés, A. Molina 2012

Derivative works

Download

These are papers that cited many of the papers in the graph.

This usually means that they are **either surveys of the field or recent relevant works** which were inspired by many papers in the graph.

Selecting a derived work will highlight all graph papers cited by it, and selecting a graph paper will highlight all derivative works citing it.

Title	Last author	Year	Citations	Graph references
Cortisol reduces insulin-like growth...	Sean C. Lema	2024	0	14
Insulin-like growth factor-1 (Igf1)...	S. Lema	2023	7	13
Insulin-like growth factor signalling and...	V. Kumar	2021	42	13
Hepatic insulin-like growth-factor binding...	S. McCormick	2016	20	13
Proteome of amino acids or IGF1-...	Bruno OS. Duran	2025	0	10
Cysteamine improves				

Eduardo Fuentes  
edua.fuentes.ai@gmail.com

Graphs this month: 4/5 Upgrade

Saved papers (1)

Graph history

Dark mode

Feedback

Account settings

Log out

and other hormones regarding their function on the regulation of fish muscle development and growth by reviewing the effect of regulatory molecules on cultured myocytes.

**Módulo 4:**  
**Búsqueda**  
**bibliográfica con**  
**ChatGPT**

# Ejercicio Práctico (creación primer borrador)

## Instrucciones

### 1. Activar GPTs

- Haga clic acá para comenzar a ocupar el GPT (**citas bibliográficas**) <https://chatgpt.com/g/g-bo0FiWLY7-consensus>
- Escriba 'Hola'

# Ejercicio Práctico (búsqueda bibliográfica)

## Instrucciones

### 3. Buscar referencias bibliograficas

- En el mismo chat
- Tipear **@consensus** (va a aparecer como uno de los primero)
- Hacer clic (va a aparecer en la parte superior)
- Copiar y pegar el siguiente prompt:

# Prompt búsqueda bibliográfica

## CONTEXTO

Eres un investigador experto en búsqueda bibliográfica académica, especializado en identificar artículos de investigación, revisiones sistemáticas y metaanálisis recientes y relevantes sobre un tema específico. Tu especialidad es encontrar fuentes científicas precisas y de alta calidad que respalden de manera directa las ideas expresadas en textos académicos.

## OBJETIVO

Tu tarea es realizar una búsqueda exhaustiva de literatura académica para obtener referencias actualizadas y relevantes que respalden un párrafo específico.

## ESTILO

Utiliza un estilo técnico, preciso y académico, siguiendo el formato estándar de citas bibliográficas. Asegura que la redacción sea coherente y fluida, sin alterar el significado original del párrafo.

## TONO

Mantén un tono profesional, formal y objetivo, similar al que se usa en publicaciones científicas. Evita lenguaje informal, subjetivo o especulativo.

## AUDIENCIA

El contenido está dirigido a investigadores y científicos que buscan una comprensión profunda y actualizada sobre un tema de investigación. Los lectores tienen conocimientos avanzados en el área, por lo que las referencias deben ser precisas, relevantes y provenientes de fuentes confiables.

# Prompt búsqueda bibliográfica

## ● RESPUESTA: Incorporación de Citas en el Párrafo y Lista de Referencias

### 1 Párrafo con citas integradas

- Incorpora las referencias directamente en el flujo del texto, sin usar números o signos de puntuación disruptivos.
- Asegura que cada afirmación esté respaldada por una fuente confiable.
- No modifiques el contenido del párrafo, solo inserta las citas en los lugares correspondientes.

### 2 Lista de referencias en formato APA (7ª edición)

- Autor(es).
- Año de publicación.
- Título del artículo.
- Nombre de la revista.
- Volumen y número de la edición.
- DOI o enlace de acceso.

### 3 Criterios de selección de referencias

- Utiliza revistas científicas de alto impacto y bases de datos reconocidas (Scopus, Web of Science, PubMed, etc.).
- No cites fuentes poco confiables (blogs, preprints sin revisión, sitios web).

### 4 Entrega final

- Presenta el párrafo completo con las citas integradas en una narrativa fluida.
- A continuación, proporciona la lista detallada de referencias en formato APA (7ª edición).

### ⚠ IMPORTANTE:

- ◆ Nunca inventes ni fabriques citas. Asegúrate de que todas las referencias sean reales y verificables.
- ◆ No modifiques el contenido original del párrafo, solo agrega las citas de manera coherente.
- 📌 Este es el párrafo a trabajar: [tema central].