

# EmBiology

Uncover new biological insights that advance your research and revenue



Get the targeted biological relationship data you need, clearing a path through vast amounts of research.



Gain invaluable insight about cause and effect relationships in published experimental results, extracted from the full text of high-impact journals.



Make more informed decisions in disease biology and bring effective and competitive therapies to the market faster.

## Finding biological relationships and networks in literature can be challenging

Finding relationships between biological entities, and understanding the nature of those interactions, is a critical step to discovering the genes and genetic modules that drive disease and is key to accelerate the process of developing effective therapies and bringing them to market.

Unfortunately, today's scientific research and literature databases haven't been designed for the specific needs of the discovery biologist – keyword-based-searching does not leverage known biological relationships or help to uncover previously unknown connections.

Researchers unnecessarily spend weeks or months searching literature and can still miss critical insights because that are buried in an overwhelming amount of information. In addition, literature reviews can be vulnerable to scientific bias. Consequently, disease biology is not fully understood and the best decisions about which drugs, targets, or experiments to pursue are not being made.

## EmBiology – A better pathway to discovery from the makers of Embase

EmBiology uses a knowledge graph to map and visualize millions of biological relationships, uncovering opportunities that may have ordinarily been overlooked. This enables you to quickly focus a search, find relevant results and discover new information, which can lead to more rapid and confident decisions about the drug pipeline.

*“The tool is very powerful to identify relationships. I will keep using it.”*

Executive Director of Translational Science, Biotech Company

## Explore cause-and-effect information from published experiments

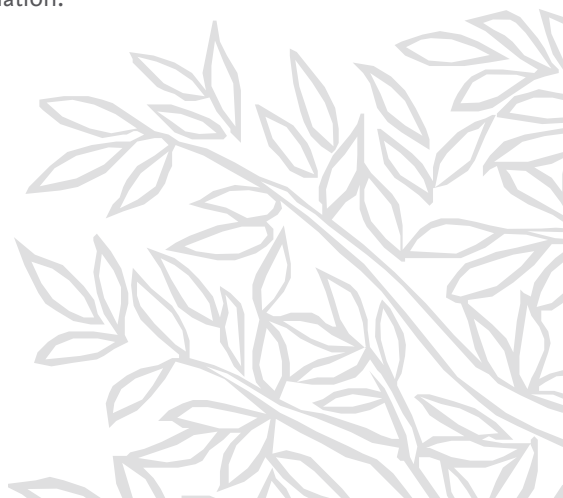
With its biology-based investigational framework, EmBiology allows you to explore cause and effect relationships associated with biological processes, allowing faster and more confident interpretation of experimental results in the context of published information.



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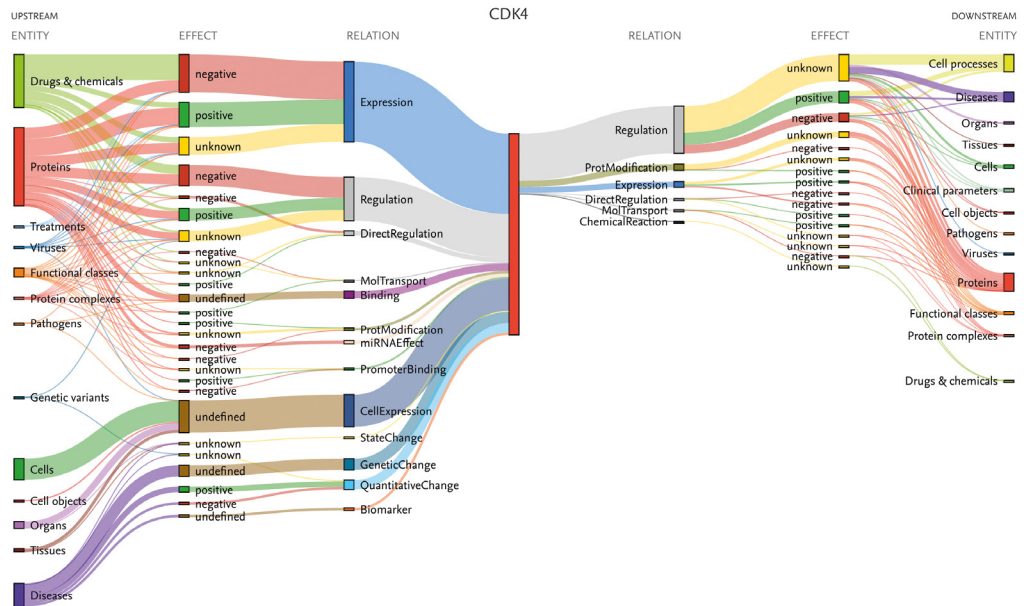
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EmBiology enables you to filter through millions of biological relationships mined from multiple publishers:

- Elsevier full-text articles (5 million from 936 journals)
- Third Party full-text article (2.2 million from 939 journals)
- PubMed abstracts (34 million from 14,224 journals)
- ClinicalTrials.gov (430 thousand)

This relationship data can also be exported for use with bioinformatics tools for even more insights.



Below each search result, you can click to see abstract, relations, or click on a link to the publisher site for the full text.

1,253 results for: CDK4

Export (First 1000) Save to list Clear selection

1. Synergistic cytotoxicity of the CDK4 inhibitor Faspicapsin in combination with EGFR inhibitor Afatinib against Non-small Cell Lung Cancer  
Investigational New Drugs, volume 40, Pages 215-223, 1 April 2022  
A. Plangger, B. Rath, M. Hochmair, M. Funovics, C. Neumayer, R. Zellinger, G. Hamilton  
Relations: 1 Abstract Full text >
2. Molecular study of the proliferation process of beta cells derived from pluripotent stem cells  
Molecular Biology Reports, volume 49, Pages 1429-1436, 1 February 2022  
S. Akhavan, S. Tatunchi, A. Malmir, P. Ajarlou, A. Jalili, G. Panahi  
Relations: 1 Abstract Full text >
3. LINC02308 promotes the progression of glioma through activating mTOR/AKT-signaling pathway by targeting miR-30e-3p/TM4SF1 axis  
Cell Biology and Toxicology, volume 38, Pages 223-236, 1 April 2022  
X. Gao, X. Wang, H. He, Y. Cao  
Relations: 1 Abstract Full text >
4. Apigenin inhibits growth of melanoma by suppressing miR-512-3p and promoting the G1 phase of cell cycle involving the p27 Kip1 protein  
Molecular and Cellular Biochemistry, volume 477, Pages 1569-1582, 1 May 2022  
Q. Xie, R. Zhang, D. Liu, J. Yang, Q. Hu, C. Shan, X. Li  
**Relations: 1 Abstract Full text >**
5. Ciclopirox targets cellular bioenergetics and activates ER stress to induce apoptosis in non-small cell lung cancer cells  
Cell Communication and Signaling, volume 20, 1 December 2022  
J. Lu, Y. Li, S. Geng, J. Wang, X. Lu, Q. Jin, B. Lu, Q. Chen  
Relations: 1 Abstract Full text >

Relations	Abstract
<b>Relation N°1</b>	1 snippet >
apigenin has a negative "Expression" relationship with CDK4. 8 References >	
Snippet 1 of 1 In addition, it was observed that the treatment of Apigenin caused significant decrease in expression of CDK2, CDK4 and CDK6 in WM1361B and WM983A melanoma cells (Fig. 4B).	
<b>Secondary relations</b>	
Secondary Relation N°1	1 snippet >
melanoma has a "FunctionalAssociation" relationship with skin cancer. 326 References >	
Secondary Relation N°2	2 snippets >
MIR512-1 has a "Regulation" relationship with melanoma. 1 Reference >	
Secondary Relation N°3	1 snippet >
apigenin has a negative "Regulation" relationship with mitotic G1 phase. 10 References >	

Relations	Abstract
In the present study, we screened multiple melanoma cell lines for treatment of Apigenin and miRNA expression, also studied the role of miR-512-3p in melanoma. RT-PCR analysis was done for screening miRNA in melanoma cell lines (WM1361B, WM983A, WM1341D, SK-MEL-3, SH-4, SK-MEL-24 and RPMI-7951) compared to normal human epidermal melanocytes. Colony formation assay for cell viability studies, cell cycle by flowcytometry and protein expression by immunoblot analysis. For in vivo analysis tumour xenograft mouse model was created. Immunohistochemistry was done for PCNA positive cells. For expression of miR-512-3p in tumour tissues fluorescence in situ hybridization was done. In silico studies were done by molecular docking studies. The WM1361B and WM983A cell lines showed overexpression of miR-512-3p and increased cell proliferation compared to normal human epidermal melanocytes. Treatment of anti-miR-512-3p to WM1361B and WM983A cells halted cell proliferation and also caused G1-phase arrest. We studied the effect of Apigenin on the expression levels of miR-512-3p and associated molecular targets. Apigenin treatment in WM1361B and WM983A cells showed inhibition in expression of miR-512-3p, arrest	

When you click on Abstract or Relations, information is viewed in a panel on the right-hand side of the screen

For each relation, you can see:

- Sentence describing relationship
- Number of article snippets mentioning relationship
- Number of articles that also include this relation



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