



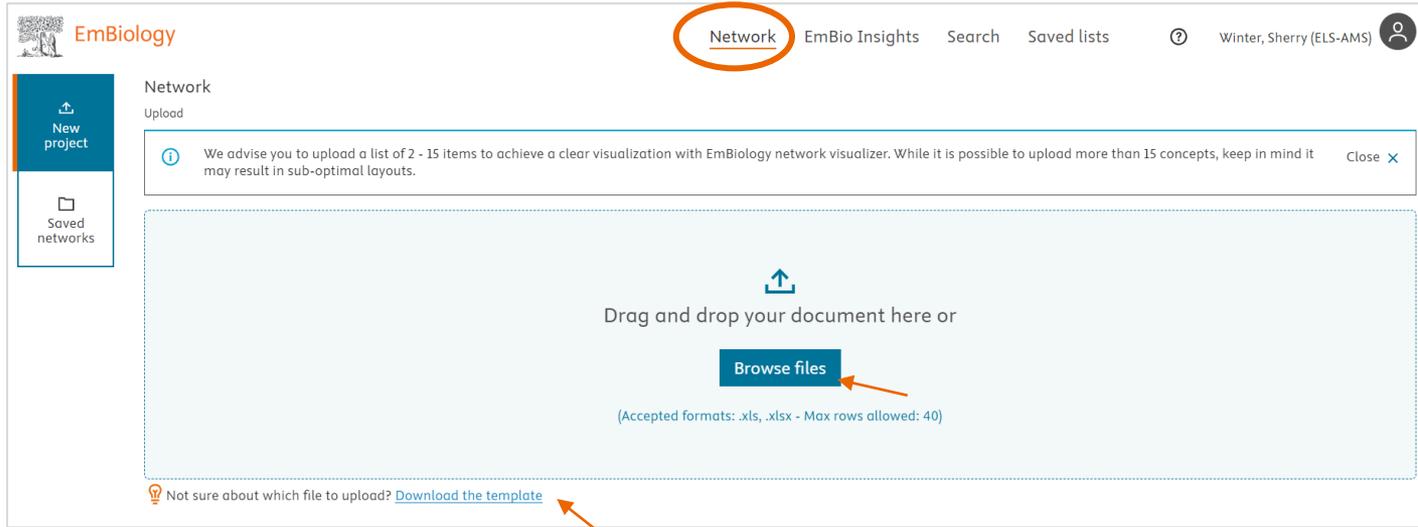
ELSEVIER

EmBiology Interaction Network guide

May 2024



Upload an Excel file of entities you'd like to see in an Interaction Network



The screenshot shows the EmBio Network interface. At the top, the 'Network' tab is highlighted with an orange circle. Below the navigation bar, there is a 'New project' button and a 'Saved networks' button. A central area is designated for file uploads, with the text 'Drag and drop your document here or' and a 'Browse files' button. A blue arrow points to the 'Browse files' button. Below this area, a link 'Download the template' is highlighted with a blue arrow. A warning message at the top of the upload area states: 'We advise you to upload a list of 2 - 15 items to achieve a clear visualization with EmBio network visualizer. While it is possible to upload more than 15 concepts, keep in mind it may result in sub-optimal layouts.'

- The list of entities should be saved in a single column (column A in the Excel sheet). The list can include any entity type and is not restricted to proteins
- Download a template to see an example
- Drag/drop your Excel file or Browse files to upload
- A list of up to 15 items gives the best visualisation

File upload and management

Recent uploads

	Name	Status	Date	
1.	Fabry disease.xlsx 	 Completed	14/05/2024	Open analysis 
<p>Click edit icon to enter your experiment description.</p>				
2.	PD example.xlsx 	 Completed	08/05/2024	Open analysis 

- Your file will be uploaded, and entities mapped to EmBiology preferred terms
- The name of the file can be edited, and a description of the file can be added by clicking the pencil icon
- Once the Status is 'Completed', click on Open analysis

Concept mapping shows details about entities in the file

Upload > Concepts mapping

Jak Ras.xlsx 

[Click edit icon to enter your experiment description.](#)

Check the following findings: 

 Rows in your list that have not been found in the database:
pias

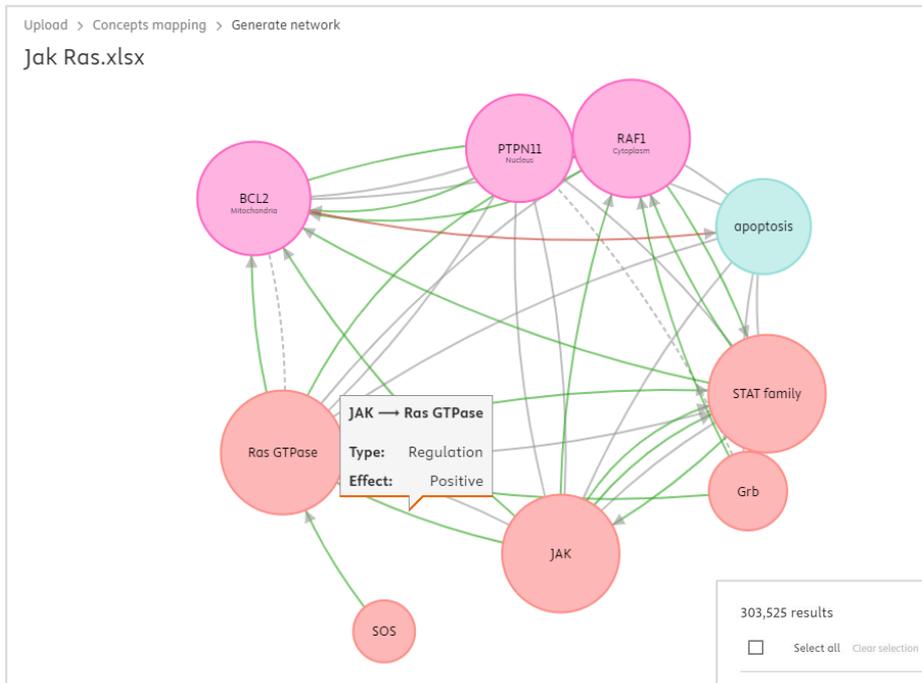
	Biological concepts (9/9)	Database match (4/9)	Total references	Concept type	Description from databases
 1.	JAK 		10,788	 Functional class	
 2.	SHP2 	 Mapped as PTPN11	4,848	Protein phosphatase	Protein Tyrosine Phosphatase Non-Receptor Type 11
 3.	GRB 		124	 Functional class	
 4.	SOS 		39	 Functional class	
 5.	Ras 	 Mapped as Ras GTPase	20,234	 Functional class	

 Scroll to view more



- Duplicates and terms that can't be matched with proteins found in the EmBiology database are shown in a header
- In some cases, the entity name in the uploaded list is a synonym of the preferred term and will be mapped to the preferred term. This is indicated in the Database match column
- Total number of references refers to the number of articles/clinical trials where the protein is mentioned
- A short description of protein entities is shown in the overview – for a more complete description, click on the > symbol beside the protein name
- Once you have reviewed the entities and are ready to proceed, click 'Generate network'

View the Network and relationships between entities



- An Interaction Network will be shown, depicting all relationships between entities
- Click on a relation line to see details about the relationship
- The list of articles providing evidence about each relation is shown below the visual –
- As with all EmBiology article lists, abstracts and relations for each article are shown, individual articles can be saved, and up to 1000 results can be exported

303,525 results

Select all [Clear selection](#) [Export \(First 1,000\)](#) [Save to list](#)

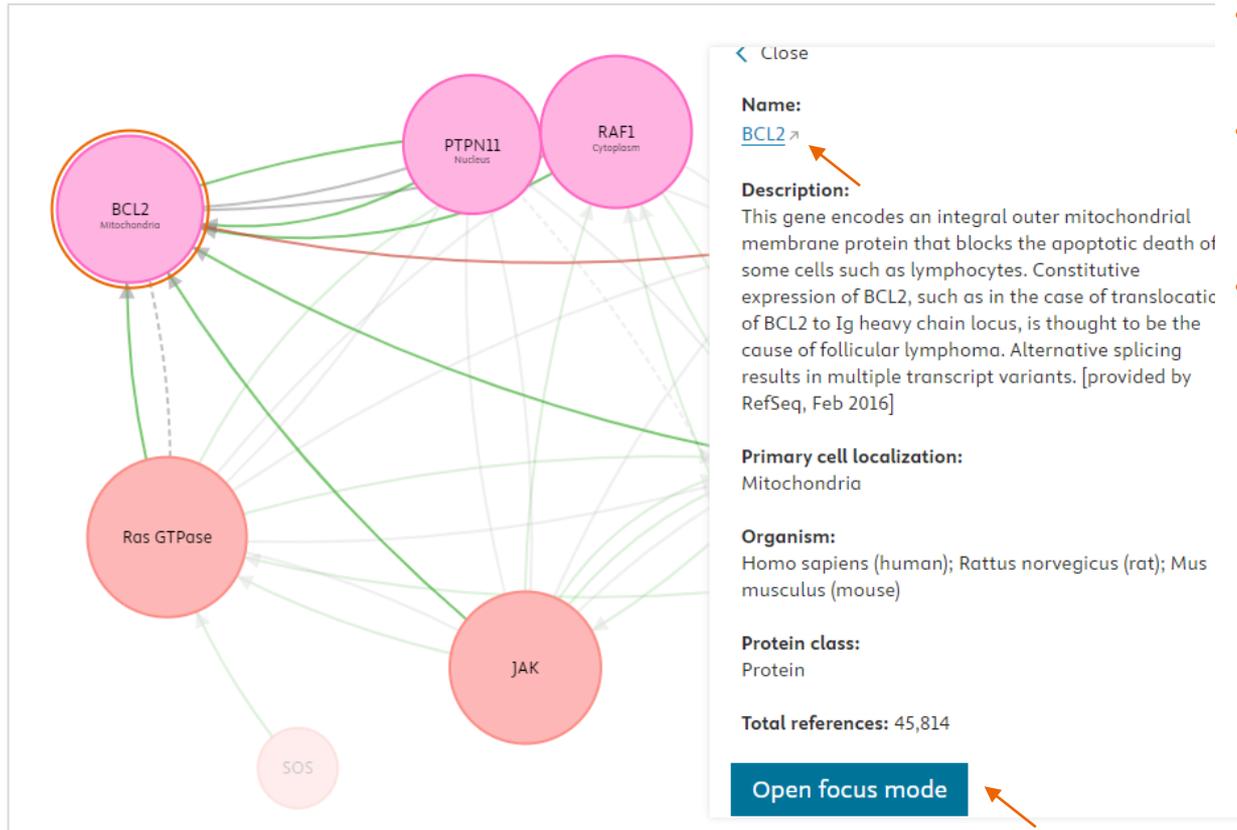
Article

1 **NUDT21 interacts with NDUFS2 to activate the PI3K/AKT pathway and promotes pancreatic cancer pathogenesis**
Journal of Cancer Research and Clinical Oncology, volume 150, 1 January 2025
 X.-D. Huang, Y.-W. Chen, L. Tian, L. Du, X.-C. Cheng, Y.-X. Liu, D.-D. Lin, F.-J. Xiao
[Abstract >](#) [Relations: 1 >](#) [Full text >](#)

Article

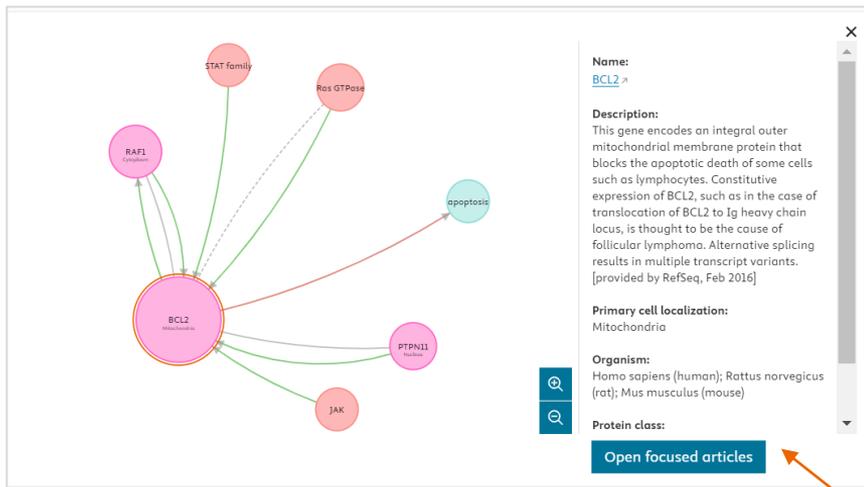
2 **Natural products targeting the MAPK-signaling pathway in cancer: overview**
Journal of Cancer Research and Clinical Oncology, volume 150, 1 January 2025
 A. Shi, L. Liu, S. Li, B. Qi
[Abstract >](#) [Relations: 1 >](#) [Full text >](#)

Click on an entity to see more information and open 'Focus mode'



- Clicking on an entity name opens a side panel with more information
- Clicking the entity name in the side panel opens EmBiology Search with that entity as the search term
- Open focus mode to look more closely at BCL2, its immediate relationships (in this network) and the supporting literature

Zoom in on specific entities and their relationships in the network with Focus mode



- Clicking 'Open focused mode' filters the list of references to those containing relationships from the focused view.
- To go back to the full list of articles, click 'closed focus mode' (not shown)

Name:
[BCL2](#)

Description:
This gene encodes an integral outer mitochondrial membrane protein that blocks the apoptotic death of some cells such as lymphocytes. Constitutive expression of BCL2, such as in the case of translocation of BCL2 to Ig heavy chain locus, is thought to be the cause of follicular lymphoma. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Feb 2016]

Primary cell localization:
Mitochondria

Organism:
Homo sapiens (human); Rattus norvegicus (rat); Mus musculus (mouse)

Protein class:

[Open focused articles](#)

< Close

Article

Isolation and characterization of N-(2-Hydroxyethyl)hexadecanamide from *Colletotrichum gloeosporioides* with apoptosis-inducing potential in breast cancer cells.

Abstract [Key relations](#) [Additional relations](#)

Relation #1 1 snippet

BCL2 has a negative "Regulation" relationship with apoptosis.

[Supported by 554 references](#)

In-Silico molecular docking analysis showed that PEA potentially docked to the active sites of apoptosis-inducing proteins including BAX, BCL-2, P21, and P53.

673 results

Select all [Clear selection](#)

Article

1 **Loss of fatty acid binding protein 3 ameliorates lipopolysaccharide-induced apoptosis in macrophages**
Journal of Biological Chemistry, volume 299, 1 March 2023
H.C. Nguyen, S. Bu, S. Nikfarjam, B. Rasheed, D.C.R. Michels, A. Singh, S. Singh, C. Marszal
[Abstract](#) > [Relations: 1](#) > [Full text](#) >

Article

2 **Isolation and characterization of N-(2-Hydroxyethyl)hexadecanamide from *Colletotrichum gloeosporioides* with apoptosis-inducing potential in breast cancer cells**
BioFactors, volume 49, Pages 663-683, 1 May 2023
N. Rai, P. Gupta, A. Verma, S.K. Singh, V. Gautam
[Abstract](#) > [Relations: 1](#) > [Full text](#) >

Coming in June – additional filtering options

Filters Clear Filters ×

Effect 4

Negative

Positive

Non Applicable

Unknown

Relationship type 7

Binding

DirectRegulation

Expression

MolTransport

PromoterBinding

[Show more](#)

Protein class 2

Protein kinase

Protein phosphatase

Protein localization 3

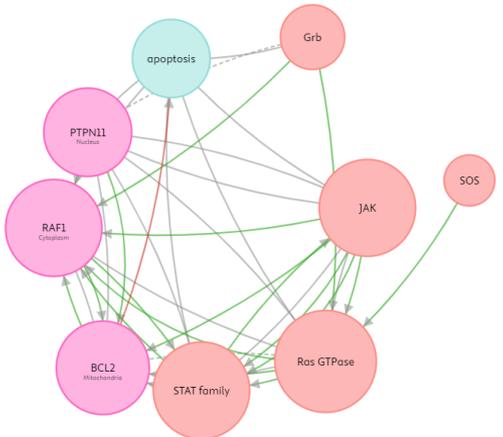
Cytoplasm

Mitochondria

Nucleus

Upload > Concepts mapping > Generate network

Jak Ras.xlsx



303,525 results

Select all Clear selection Export (First 1,000) Save to list

Article

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Article

2 Natural products targeting the MAPK-signaling pathway in cancer: overview

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[Abstract](#) > [Relations: 1](#) > [Full text](#) >

- De-selecting a filter will cause the affected entity/relationship to be greyed out and the references list to update (removing references that supported the relationship(s) removed by filters from the list)
- Available filters will include:
 - Publication filters (# references supporting a relationship and year)
 - Effect
 - Relationship type
 - Protein class
 - Protein localisation filters