

Collaborative Efforts to change

Science Publishing

Anita de Waard

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The Netherlands



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Entities:

- FEBS Structured Digital Abstract
- OKKAM Entity Authoring tool

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Hypotheses and Evidence:

- Discourse Analysis of Biology Articles
- The Hypotheses, Evidence and Relationships

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Collaborations:

- The Elsevier Grand Challenge
- The Future of Research Communication

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FEBS Letters Structured Digital Abstracts

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Collaborative effort with FEBS Letters Editorial Office in Heidelberg /
MINT database curators in Rome

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Being used as Gold Standard for Biocreative Challenge 2009

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MINT-6168263:

Gsg1 (uniprotkb:Q8R1W2), TPAP (uniprotkb:Q9WVP6) and Calmegin (uniprotkb:P52194) colocalize (MI:0403) by cosedimentation (MI:0027)

MINT-6168204, MINT-6168178:

Gsg1 (uniprotkb:Q8R1W2) and TPAP (uniprotkb:Q9WVP6) colocalize (MI:0403) by fluorescence microscopy (MI:0416)

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[MINT-6168263](#):

[Gsg1](#) (uniprotkb:Q

[Calmegin](#) (uniprot

[cosedimentation](#) (M

[MINT-6168204](#), [M](#)


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Interaction: MINT-6743118


This interaction is supported by **figure 2**
interaction type: **physical interaction**
comment: AtRGS1 (E320K) mutant also interacts with AtGPA1 using BiFC.
Detection method: **bimolecular fluorescence complementation**
interaction detected in **leaves** (*Nicotiana benthamiana*, taxid: 4100)

2 partners: 2 neutral components

 **RGS1** (author)
 [At3g26090](#) *Arabidopsis thaliana*
GPA1 (author)
Guanine nucleotide-binding protein alpha-1 subunit
 [GPA1](#) *Arabidopsis thaliana*

Sample	living cell
Expression	over-expressed level
Identification	predetermined participant
Tag	yfp tagged

This interaction is curated from:
d-Glucose sensing by a plasma membrane regulator of G signaling protein, AtRGS1. Grigston JC.
et al. FEBS Lett. (0014-5793) pubmed:[18817773](#)

Structured abstract ([the febs letter experiment](#)):
in this  [publication](#) the authors describe the following interactions:
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
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expand

Freeze

score

GPA1 Arabidopsis thaliana

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Search for

UniProtKB/TrEMBL entry [Q8H1F2](#)

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Note: most headings are clickable, even if they don't appear as links. They link to the [user manual](#) or [other documents](#).

Entry information	
Entry name	Q8H1F2_ARATH
Primary accession number	Q8H1F2
Secondary accession numbers	None
Integrated into TrEMBL on	March 1, 2003
Sequence was last modified on	March 1, 2003 (Sequence version 1)
Annotations were last modified on	July 22, 2008 (Entry version 22)
Name and origin of the protein	
Protein name	Putative uncharacterized protein At3g26090
Synonyms	None



OKKAM project

FP7 IP: 2008 - 2010, 13 partners, 7 countries: universities (Trento, DERI) and companies (SAP, ANSA, Elsevier)

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Goal: support and enable the use of globally unique identifiers for entities on the Web,

global entity identifier management infrastructure & services

currently in OKKAM store: 5 my entities

extensions into common tools: Protege (see demo!), GMail, Blogger
-> RDFa, MS Word

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Author Identifier experiment with Scopus:

challenge: combine proprietary with open IDs?

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Our use case:

finding proteins and interactions in Life Science articles
(i.e., semi-automating FEBS SDA!)

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Short_j.febslet.2005.09.105.doc - Microsoft Word

File Modifica Visualizza Inserisci Formato Strumenti Tabella Finestra ?

110% Lettura

Titolo 3 + 16 pt, Times New Roman 16

FEBS Letters 580 (2006) 940–947

The p53-inducible E3 ubiquitin ligase p53RFP induces p53-dependent apoptosis

Jun Huang^a, Liang-Guo Xu^b, Ting Liu^a, Zhonghe Zhai^a, Hong-Bing Shu^{c,*}

Okkam Tools

- Okkamize
- Options

Commento [Okkam-1]:
[name=uniprotkb:P02340](#)

Commento [Okkam-2]:
[name=uniprotkb:Q86SL2](#)

Okkamize document

Detected entity:

The p53-inducible E3 ubiquitin ligase p53RFP induces p53-dependent apoptosis

Retrieved information:

Results	Confidence
ok47d5e225-e4dc-4929-880f-46e623d01f2e	0,75

Export...

Options... Close

Ignore Ignore all Ignore paragraph Mark Mark all Navigate

Abstract Recently, it has been shown that really interesting new gene (RING)–in between ring finger (IBR)–RING domain-containing proteins, such as Parkin and Parc, are E3 ubiquitin ligases

Pg 1 Sez 1 1/3 A 3,2 cm Ri 2 Col 1 REG REV EST SSC Inglese (Re)

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Normale (Web) Times New Roman 12

The p53-inducible E3 ubiquitin ligase p53RFP induces p53-dependent apoptosis

Jun Huang^a, Liang-Guo Xu^b, Ting Liu^a, Zhonghe Zhai^a, Hong-Bing Shu^{c,*}

^aDepartment of Cell Biology and Genetics, College of Life Sciences, Peking University, Beijing 100871, China ^bNational Jewish Medical and Research Center, C080206, USA ^cCollege of Life Sciences, Wuhan University, Wuhan 430072, China

Received 26 July 2005; revised 20 September 2005; accepted 20 September 2005 Available online 18 January 2006 Edited by Varda Rotter

Abstract Recently, it has been shown that really interesting new gene (RING)-in between ring finger (IBR)-RING domain-containing proteins, such as Parkin and Parc, are E3 ubiquitin ligases and are involved in regulation of apoptosis. In this report, we show that p53-inducible RING-finger protein (p53RFP), a p53-inducible E3 ubiquitin ligase, induces p53dependent but caspase-independent apoptosis. p53RFP contains an N-terminal RING-IBR-RING domain and an uncharacterized, evolutionally highly conserved C-terminal domain. p53RFP interacts with E2 ubiquitin-conjugating enzymes UbcH7 and UbcH8 but not with UbcH5, and this interaction is mediated through the RING-IBR-RING domain of p53RFP. Interestingly, the conserved C-

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Okkam Tools - Report entities

The document contains the following entities:

- name=uniprotkb:P02340
 - p53
 - p53
 - p53
 - p53
 - p53
- name=uniprotkb:Q72419
 - p53RFP
 - p53RFP
- name=uniprotkb:Q86SL2
 - ubiquitin ligase
 - ubiquitin ligase
 - ubiquitin liqases

Index settings:

Position:

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☐ At the end of your document

☐ Remove comments on index creation

Finalize index Export... Close

es, Peking University, Beijing 100871, China

September 2005 Available online

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INDEX OF OKKAM'S ENTITIES:

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Hypotheses and Evidence

Science Occurs in Language

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Oncogene-induced senescence is characterized by the appearance of cells with a flat morphology			
that express senescence associated (SA)- β -Galactosidase.			
Indeed, control RAS ^{V12} -arrested cells showed relatively high abundance of flat cells expressing SA- β -Galactosidase (Fig. 2 G and 2H).			
Consistent with the cell growth assay, very few cells showed senescent morphology			
when transduced with either miR-Vec-371&2, miR-3 ^{kd} .			
Altogether, these data show that			
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Science Occurs in Language: Use Linguistics!

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Science Occurs in Language: Use Linguistics!

Segment	Type	Tense	Markers
Oncogene-induced senescence is characterized by the appearance of cells with a flat morphology	Fact	Past	
that express senescence associated (SA)- β -Galactosidase.	Fact	Present	
Indeed , control RAS ^{V12} -arrested cells showed relatively high abundance of flat cells expressing SA- β -Galactosidase (Fig. 2 G and 2H).	Result	Past	Booster
Consistent with the cell growth assay, very few cells showed senescent morphology	Result	Past	Booster
when transduced with either miR-Vec-371&2, miR-3 ^{kd} .	Method		
Altogether , these data show that	Report	Present	Additive
transduction with either miR-Vec-371&2 or miR-Vec-373 prevents RAS ^{V12} -induced growth arrest in primary human cells.	Implication	Present	

Realms of Science

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Conceptual
realm

Realms of Science

Conceptual
realm

Experimental
realm

Realms of Science

Conceptual
realm

Experimental
realm

Data realm

Realms of Science

Conceptual realm

(1) Oncogene-induced senescence **is characterized by** the appearance of cells with a flat morphology that **express** senescence associated (SA)- β -Galactosidase.

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Experimental realm

(2a) Indeed,

(4a) Altogether, these data **show** that

(2b) control RAS^{V12}-arrested cells **showed** relatively high abundance of flat cells **expressing** SA- β -Galactosidase

(3a) Consistent with the cell growth assay,

(3b) very few cells **showed** senescent morphology when **transduced** with either miR-Vec-371&2, miR-Vec-373, or control p53^{kd}.

Data realm

(2c) (Figures 2G and 2H).

(Figures)

Realms of Science

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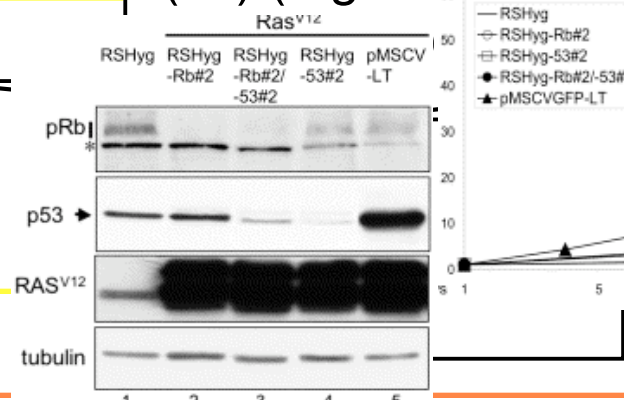
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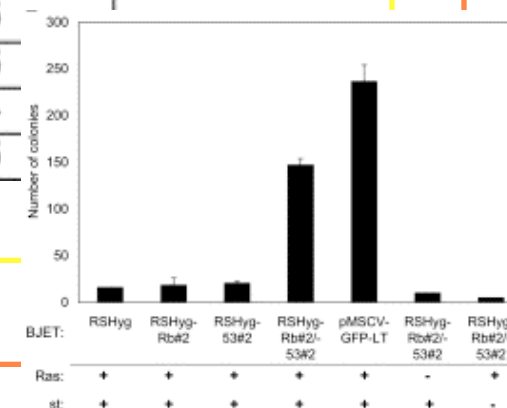
Data realm

(2c) (Figure



RSHyg-empty	0/6
RSHyg-53#2	2/6
RSHyg-Rb#2	0/4
RSHyg-Rb#2/-53#2	5/6

Tumors after 4 weeks



Realms of Science

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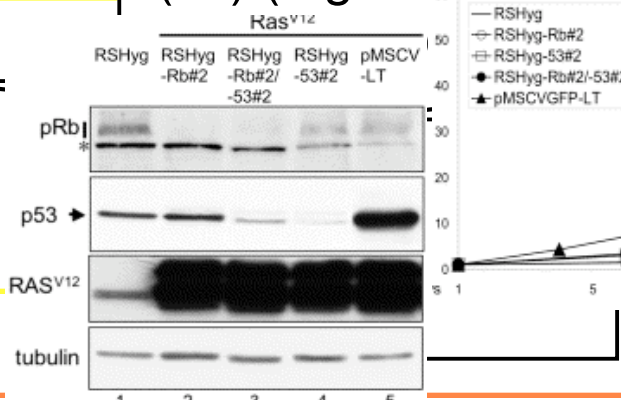
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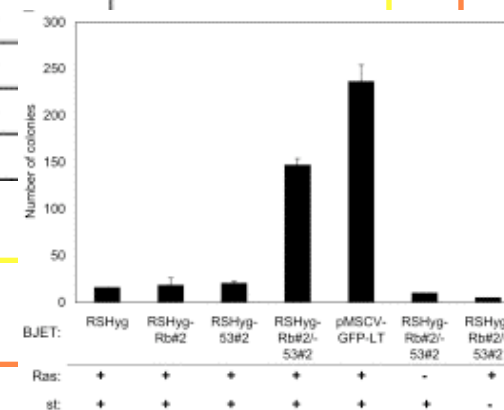
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Evidence

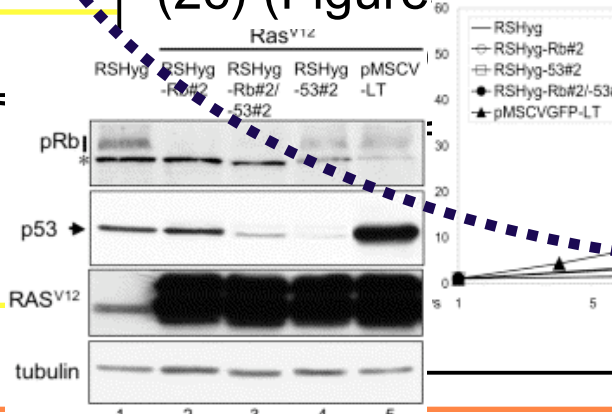
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(3b) very few cells **showed** senescent morphology when **transduced** with either miR-Vec-371&2, miR-Vec-373, or control p53^{kd}.

Data realm

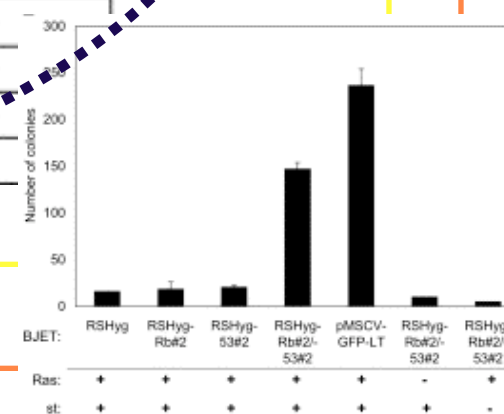
(2c) (Figure



RSHyg-empty
RSHyg-53#2
RSHyg-Rb#2
RSHyg-Rb#2/-53#2

Tumors after 4 weeks

0/6
2/6
0/4
5/6

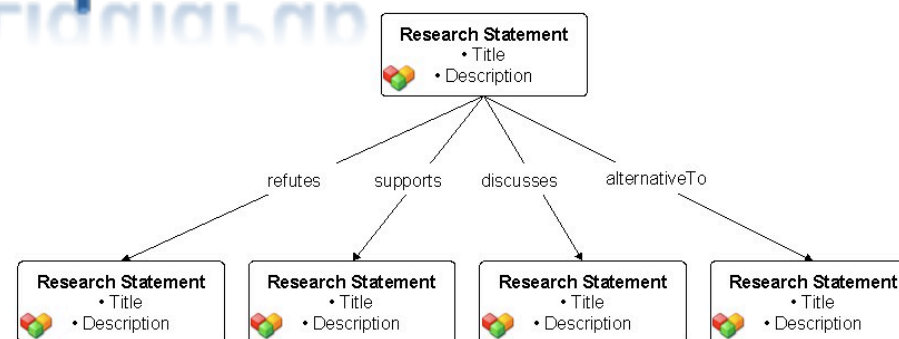


Hypotheses, Evidence and Relationships

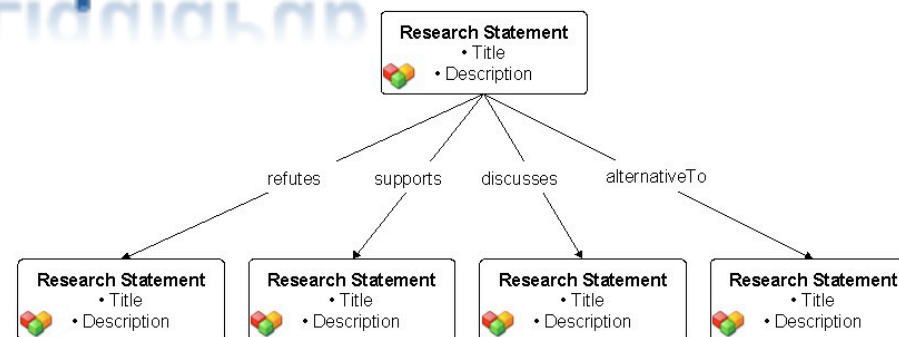
Hypotheses, Evidence and Relationships



Hypotheses, Evidence and Relationships



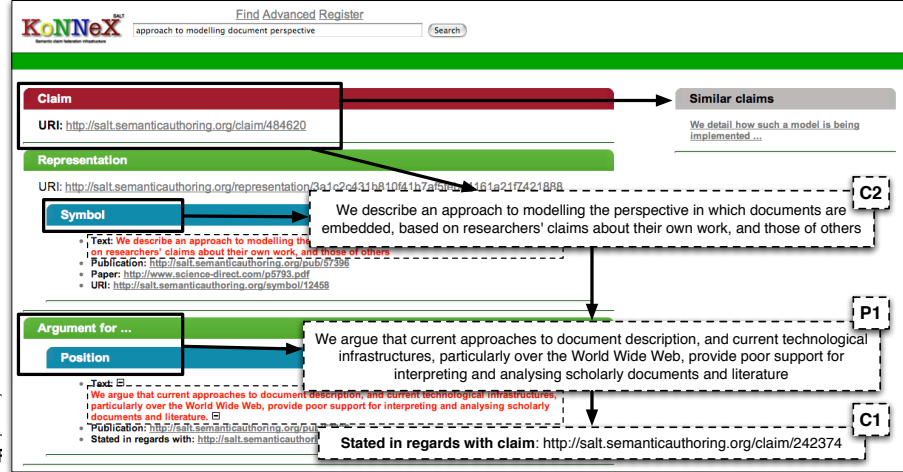
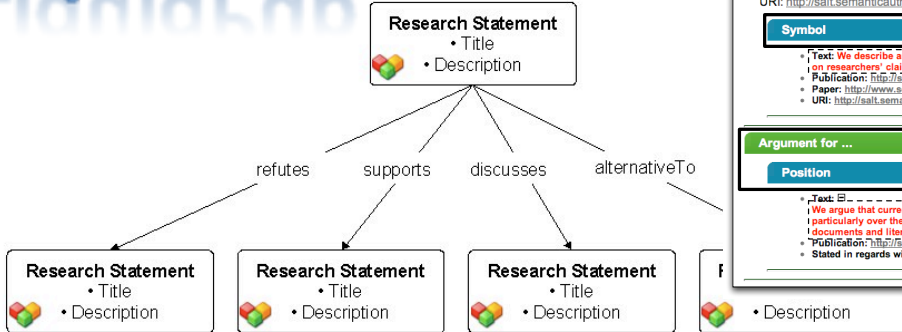
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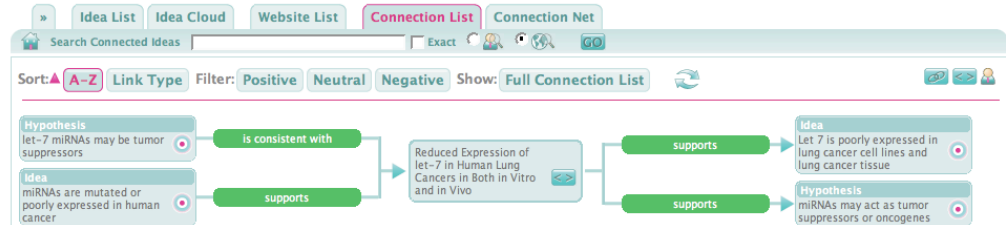
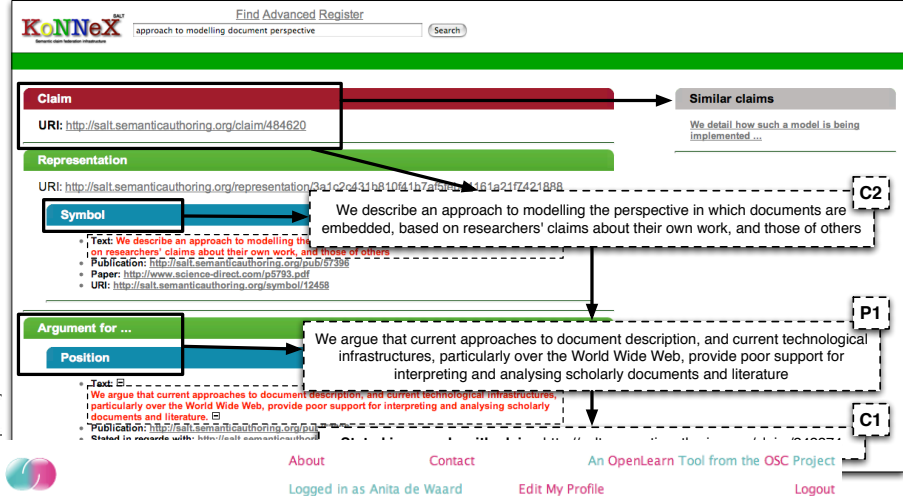
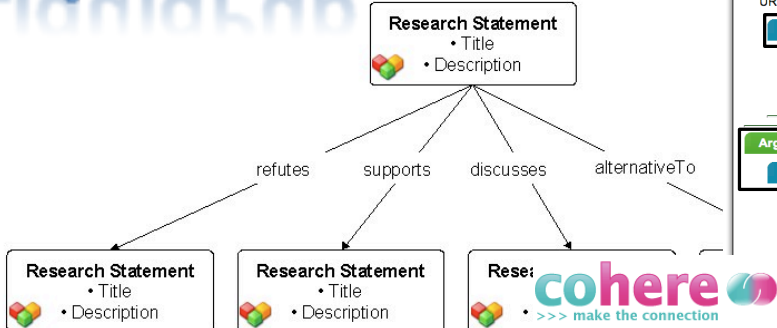
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**Fig. 2.** Browsing a discussion in KonneX^{SALT}

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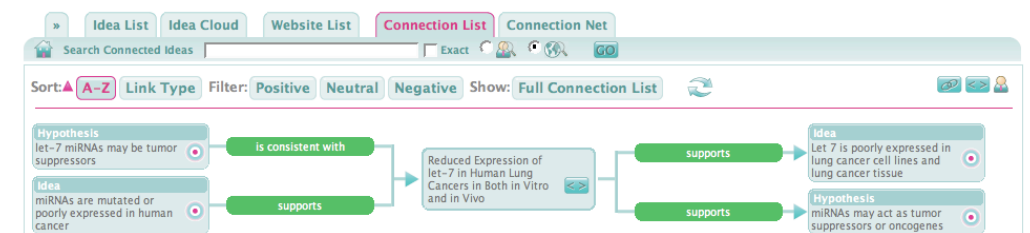
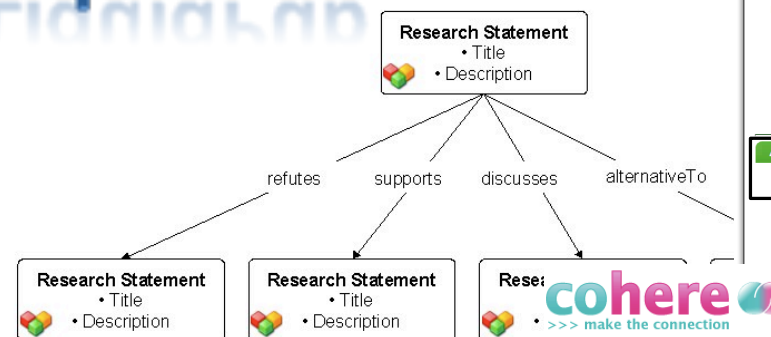


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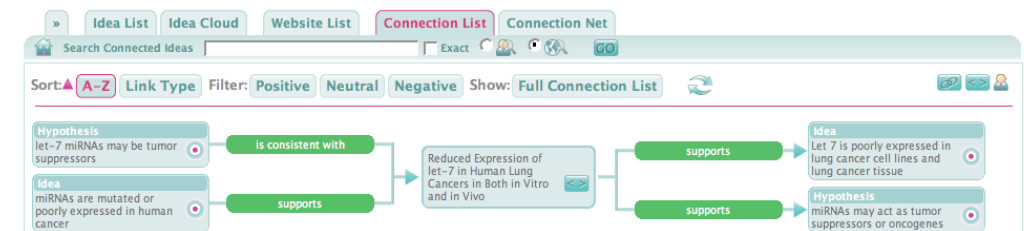
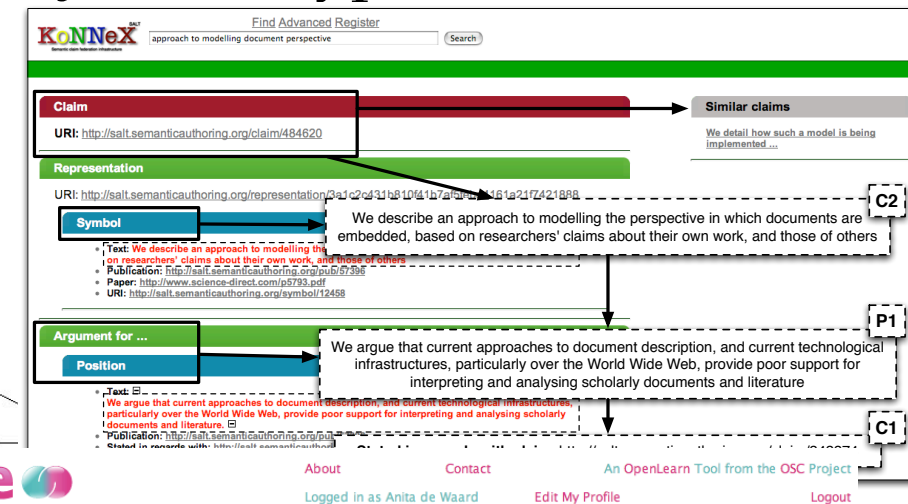
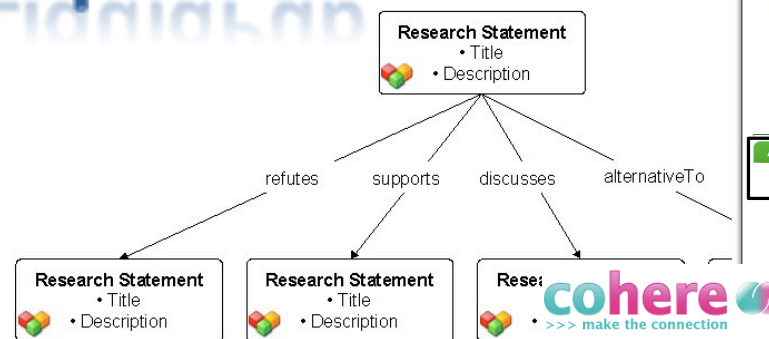
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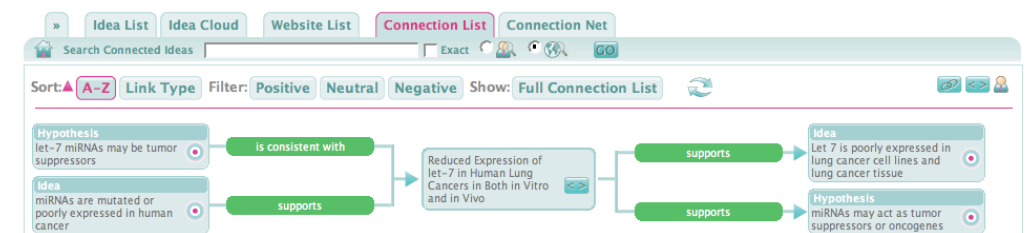
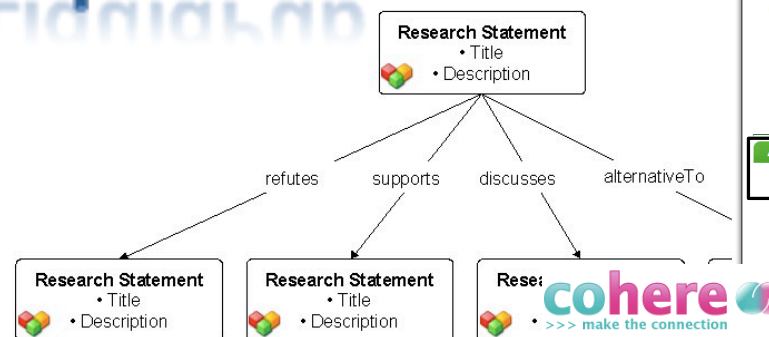
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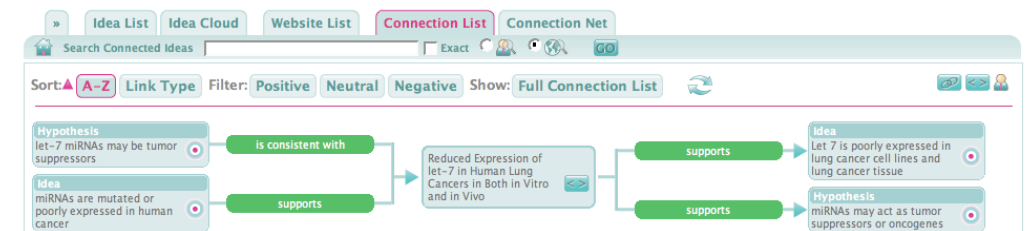
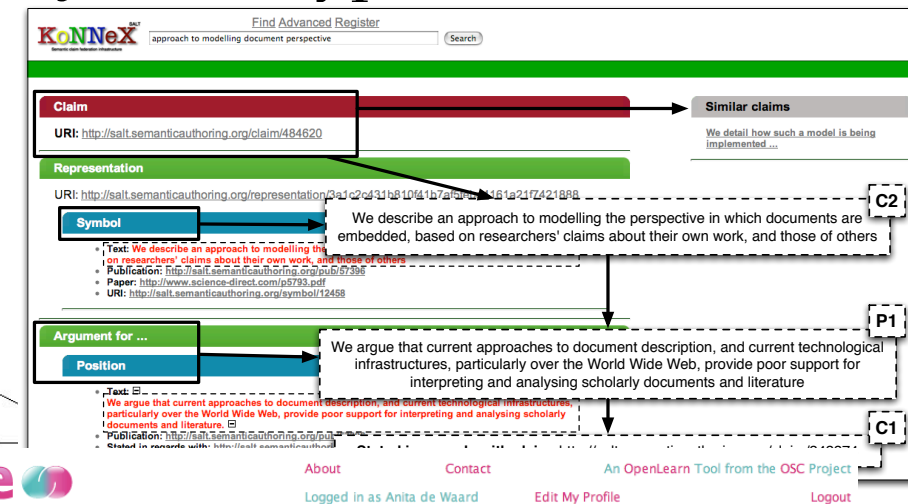
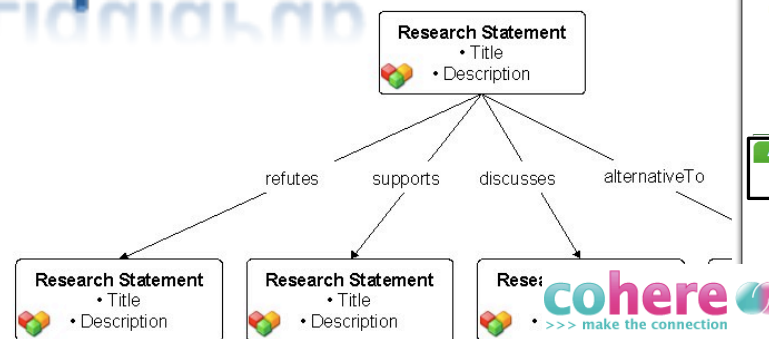
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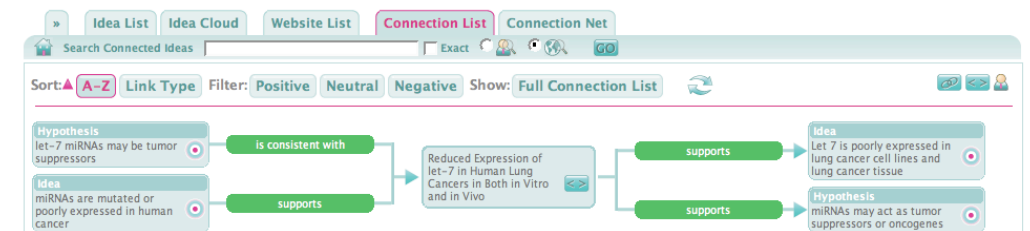
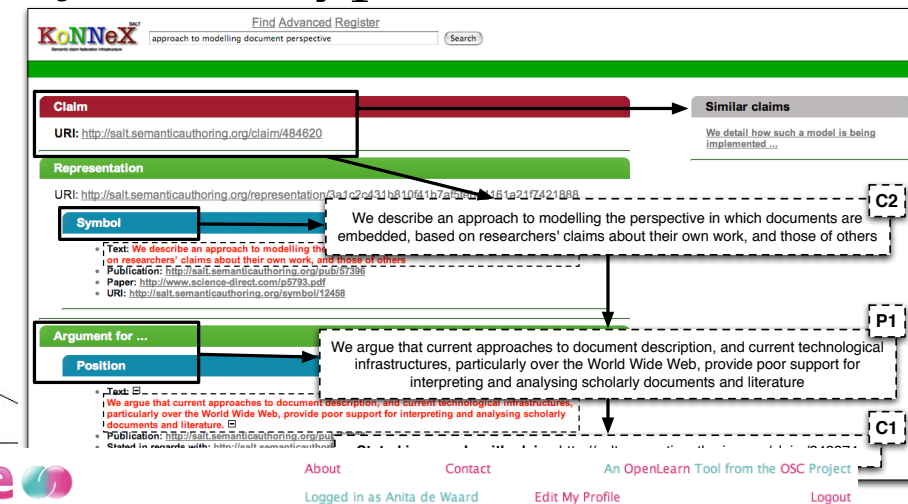
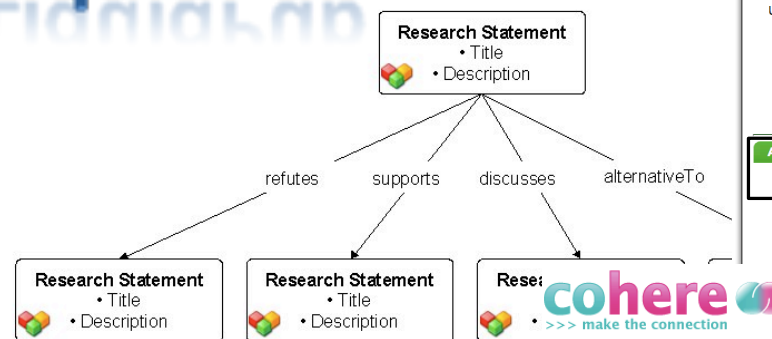
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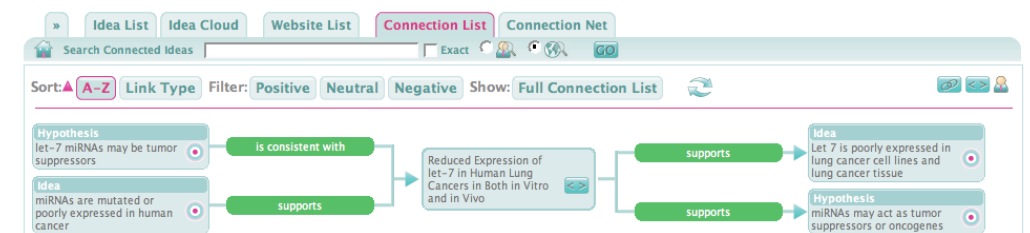
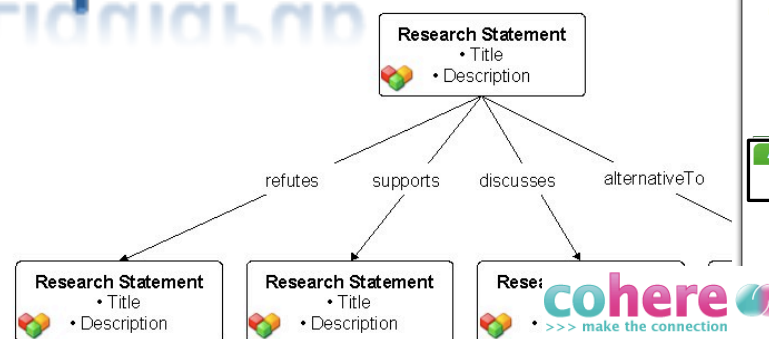
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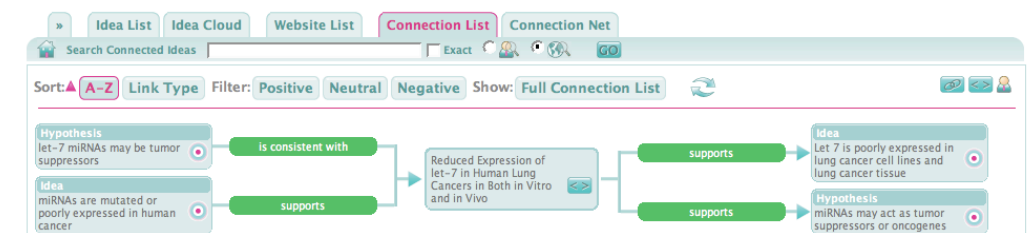
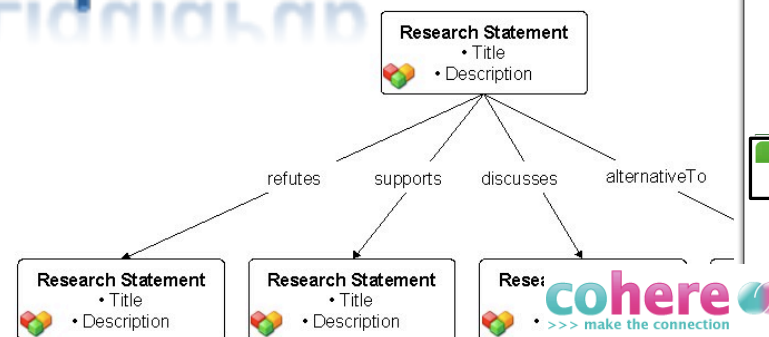
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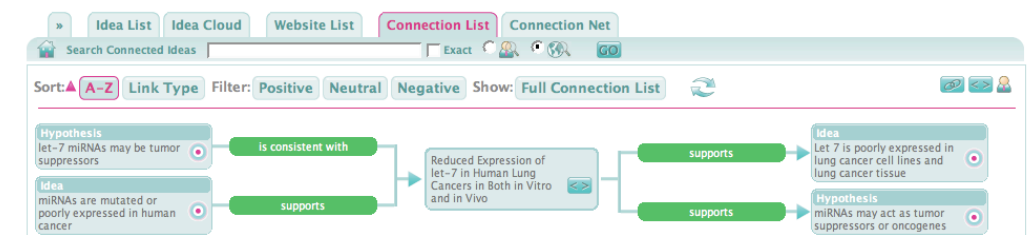
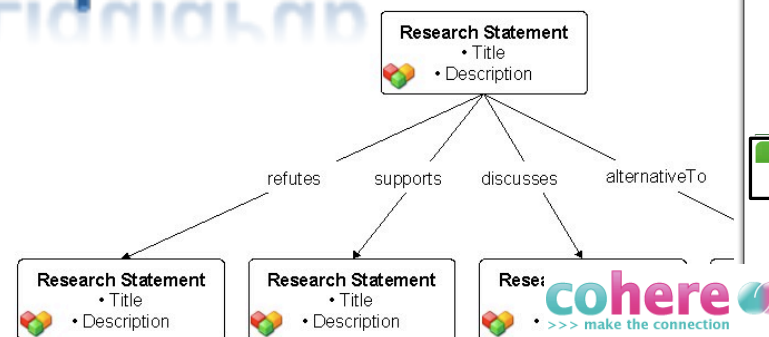
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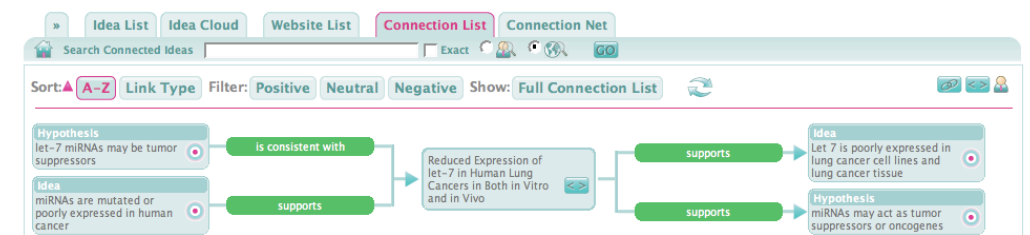
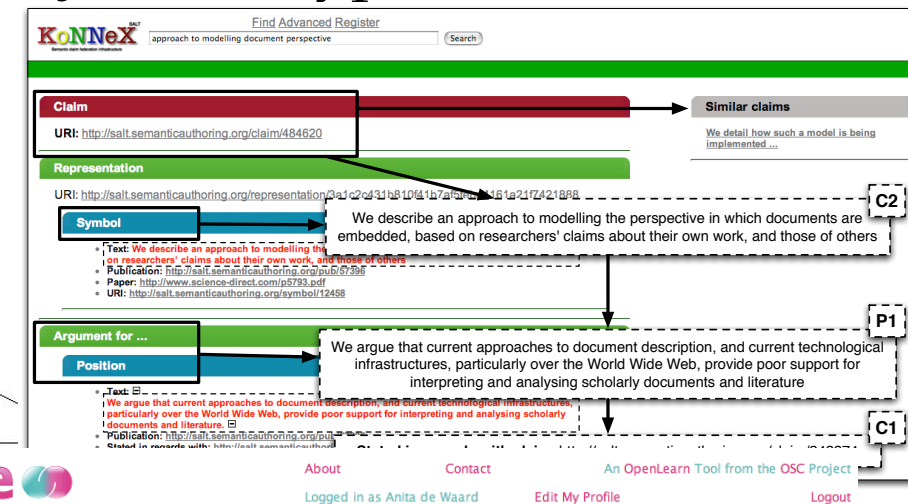
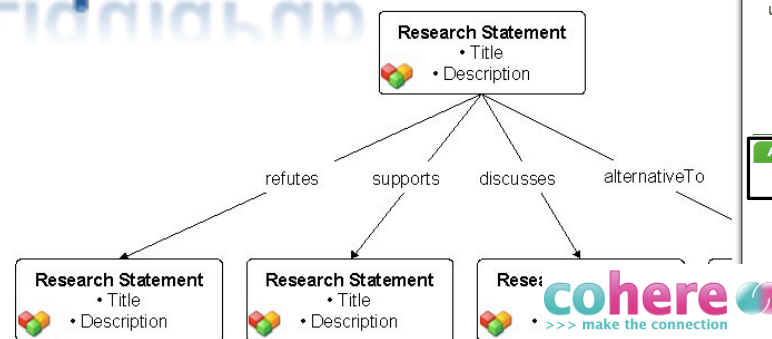
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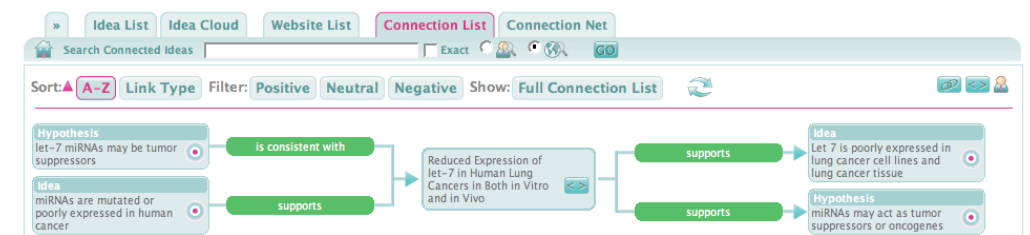
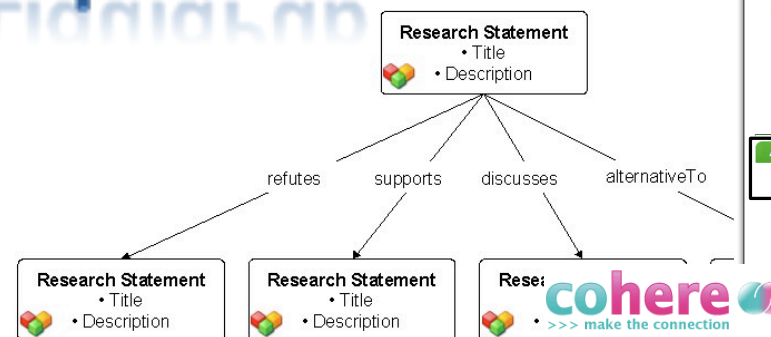
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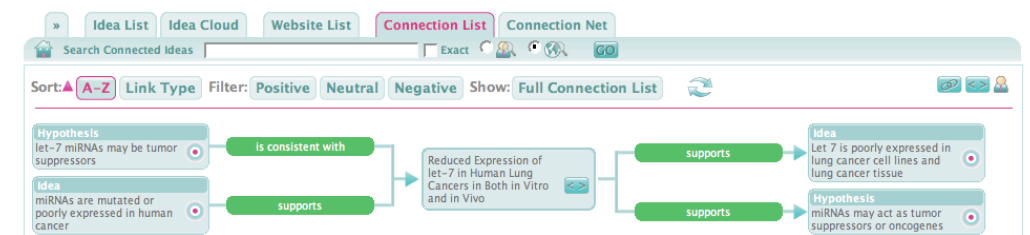
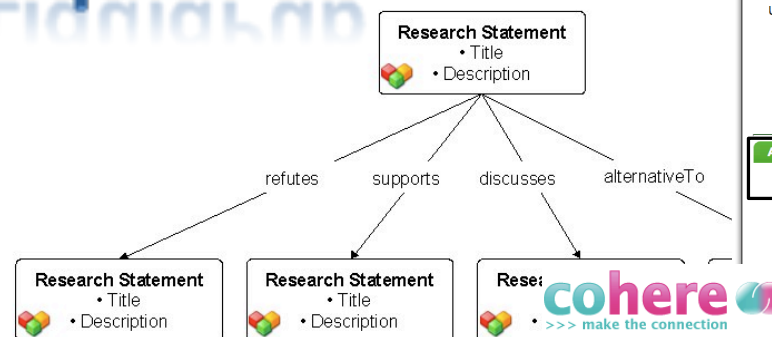
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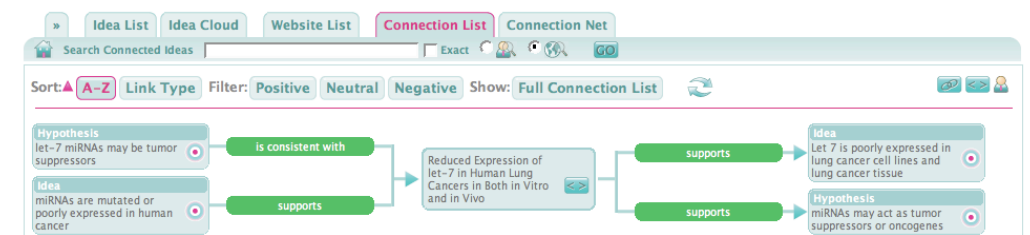
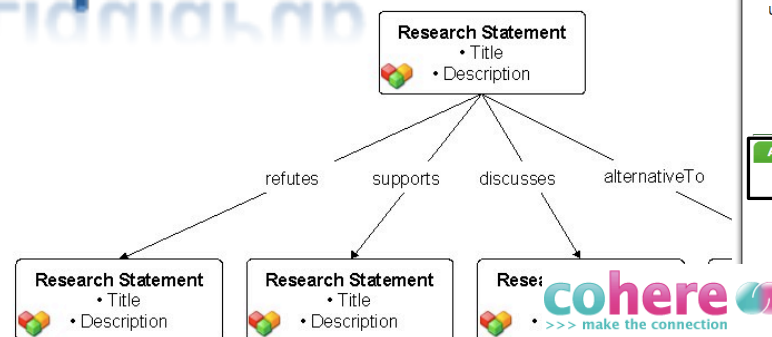
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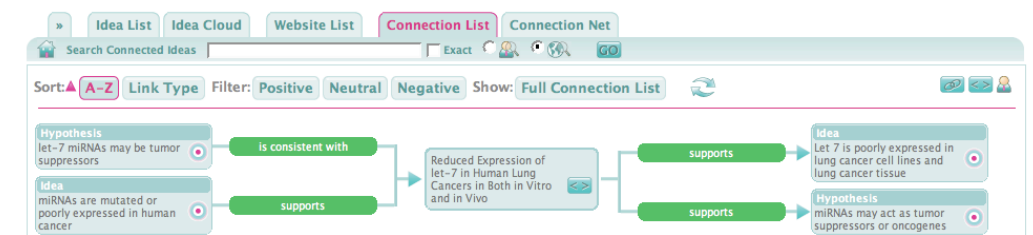
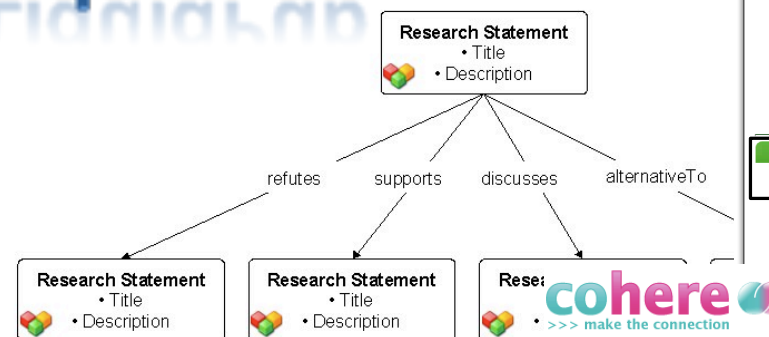
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Collaborations



The Elsevier Grand Challenge

Knowledge Enhancement in the Life Sciences



The Elsevier Grand Challenge

Knowledge Enhancement in the Life Sciences

Scope: Tools and processes to:



The Elsevier Grand Challenge

Knowledge Enhancement in the Life Sciences

Scope: Tools and processes to:

- Improve the process of creating, reviewing and editing scientific content



The Elsevier Grand Challenge

Knowledge Enhancement in the Life Sciences

Scope: Tools and processes to:

- Improve the process of creating, reviewing and editing scientific content
- Interpret, visualize or connect science knowledge



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June 2008: 71 Submissions from 15 countries.



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The screenshot shows a web browser window with the URL <http://www.stembook.org/node/502#sec1-7>. The page content discusses pluripotency, mentioning transcription factors like Sox2 and Nanog. A modal window titled "Sox2" is open, displaying protein information for ENSP00000323588 (SOX2_HUMAN) from H. sapiens. It includes a protein structure visualization, a sequence viewer showing the amino acid sequence MYNMMETELKPPGPQQTSGGGGGNSTAAAAGGNQKNSPD RVKRPMAI, and a diagram of the protein's function as a transcription factor. Below the modal window, a diagram illustrates the regulatory network involving Oct4, Sox2, and Nanog, showing their mutual activation and regulation of other factors.



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And the winners are:

The screenshot shows a web browser window with the URL <http://www.stembook.org/node/502#sec1-7>. The page displays a search interface with a search bar containing the text "alzheimer and tau" and a "Search" button. Below the search bar, there are several tabs: "Knowledge", "Text", "Title", and "Authors". The "Knowledge" tab is selected, showing a list of results for "tau". The results are sorted by rank, with the top result being "tau" (rank 1, score 1.000432866). The "tau" entry is expanded, showing its properties and objects. The "Property" section lists "TYPE" (rank 31, score 1.0000639374) and "ONS" (rank 1, score 1.0000639374). The "Object" section lists various terms related to tau, such as "action", "active study", "activities", "adult human brain", "amyloid", "cell culture", "clinical or research activity", "clinical study status", and "conceptual entity". The "tau" entry is also linked to a "tau TYPE technique" and a "tau TYPE action". The "tau TYPE technique" section lists sources: "Myosin light chain kinase (210 kDa) is a potential cytoskeletal motor", "Calcium-induced tripartite binding of intrinsically disordered proteins", and "Myosin phosphatase targeting subunit 1 affects cell migration". The "tau TYPE action" section lists sources: "Both the Establishment and the Maintenance of Neuronal Polarity". The "tau" entry is also linked to a "tau TYPE action" and a "tau TYPE technique". The "tau" entry is also linked to a "tau TYPE action" and a "tau TYPE technique".

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Semantic web:

- Tim Clark (Harvard)
- Siegfried Handschuh (DERI)

Computational Linguistics:

Eduard Hovy (ISI, USC)

Robert Dale (Sydney)

Publishing and information science:

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New ways of communicating science requires new ways of communicating!

Conference registrants form a community - the website is their meeting place

The physical conference is a synchronous manifestation of a subset of the community

The conference starts with the website and continues as long as the participants want it to