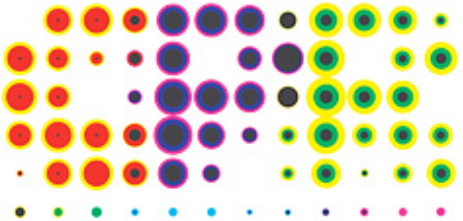
Reflect - text mining in Semantic Web

a practical approach to web semantics



The Novo Nordisk Foundation
Center for Protein Research

DET SUNDHEDSVIDENSKABELIGE FAKULTET
KØBENHAVNS UNIVERSITET

Mechanism of action [edit]

Unlike the similarly-named tacrolimus, sirolimus is not a calcineurin inhibitor. However, it has a similar suppressive effect on the immune system. Sirolimus inhibits the response to interleukin-2 (IL-2) and thereby blocks activation of T- and B-cells. In contrast, tacrolimus inhibits the production of IL-2.

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Current Status in publication process

- not widely used
- won’t change soon because:
  - authors tend to do as much as needed
  - more work for publishers

Reflect approach

- Easy
- Fast
- Versatile

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Chemicals

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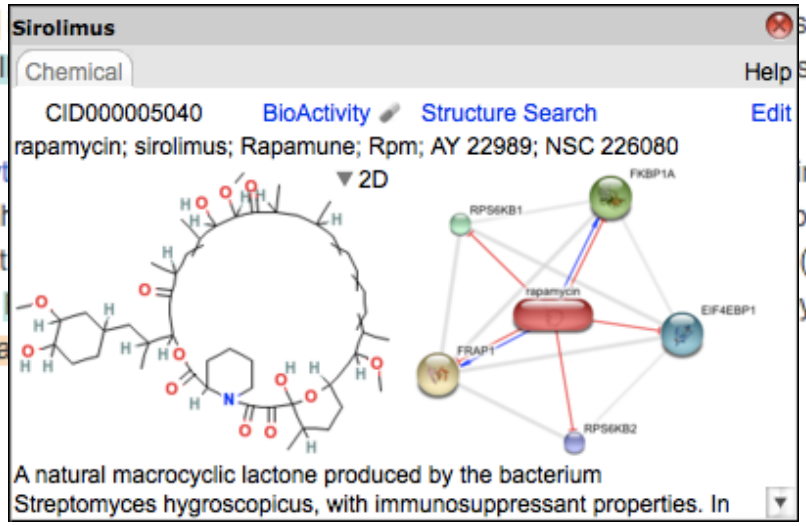

Proteins

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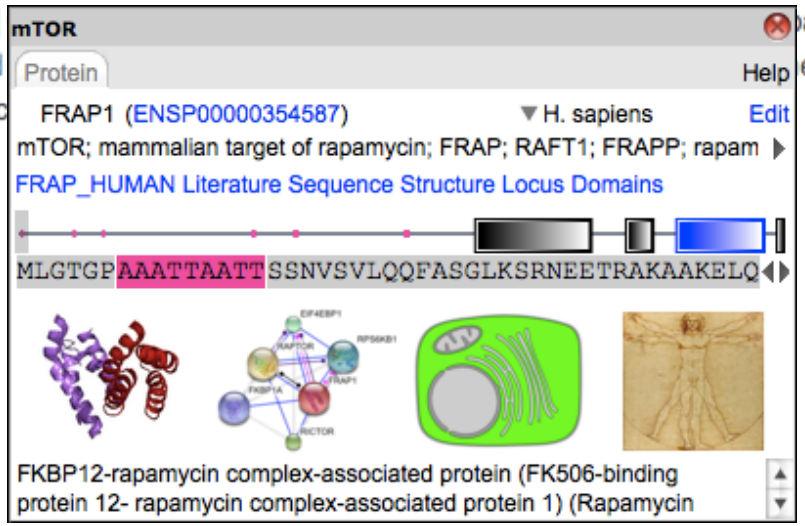

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Add Name

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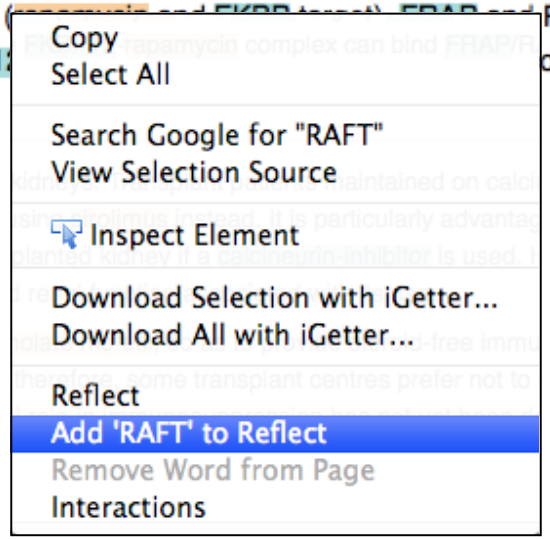

Blacklist Name

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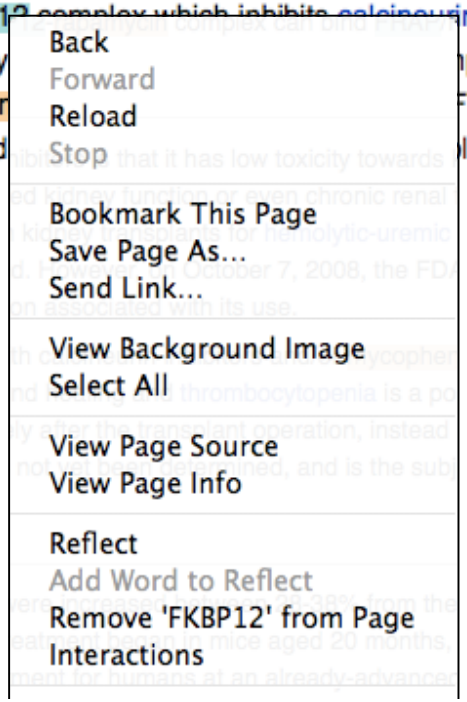

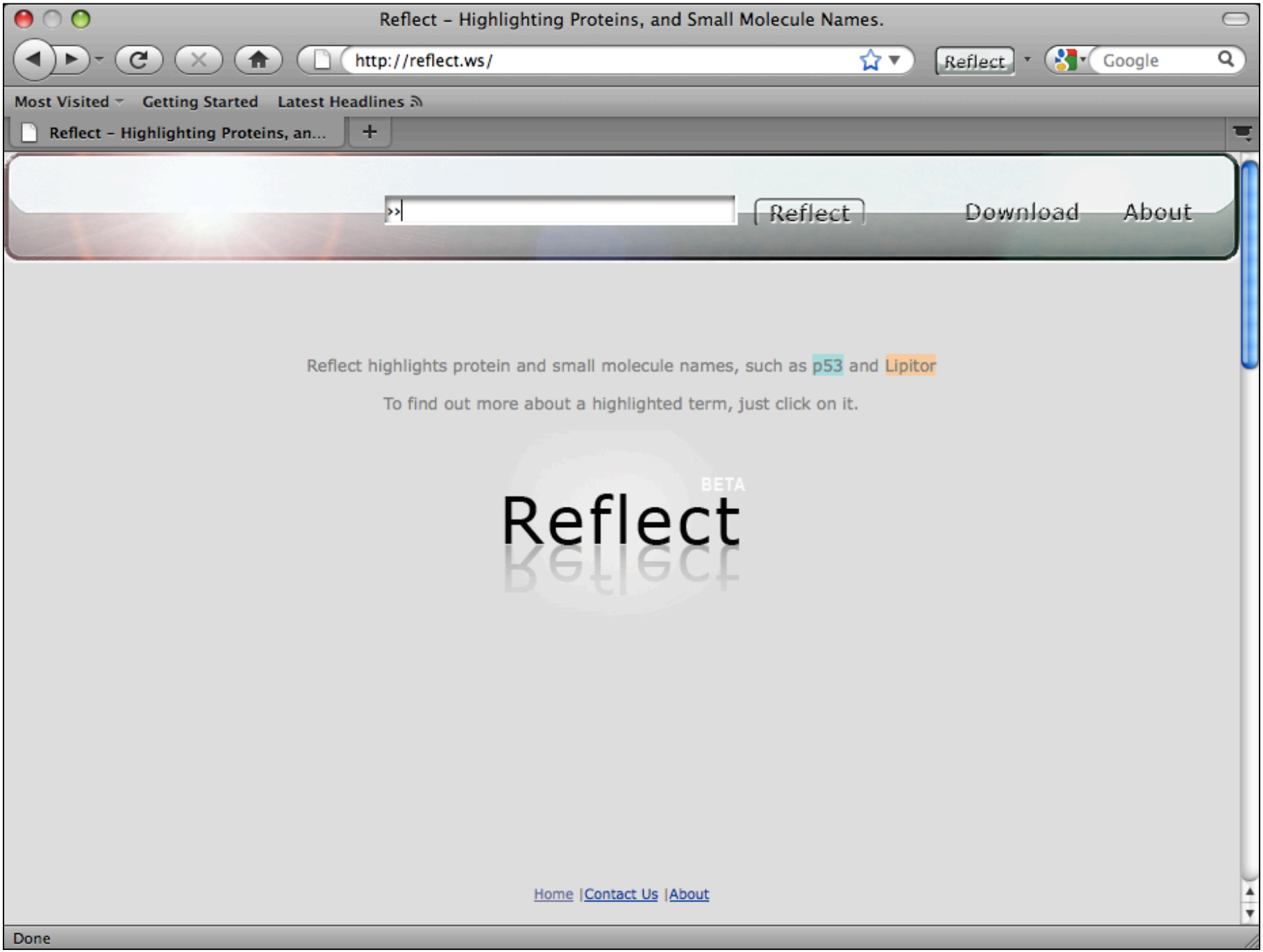
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Sirolimus

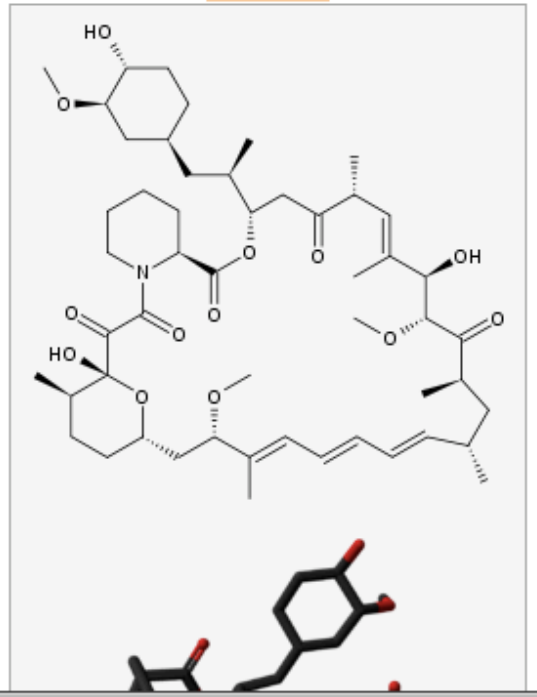
From Wikipedia, the free encyclopedia

Sirolimus (INN/USAN), also known as **rapamycin**, is an immunosuppressant drug used to prevent rejection in organ transplantation; it is especially useful in kidney transplants. A macrolide, sirolimus was first discovered as a product of the bacterium *Streptomyces hygroscopicus* in a soil sample from Easter Island[1] — an island also known as "Rapa Nui", hence the name.[2] It is marketed under the trade name **Rapamune** by Wyeth.

Sirolimus was originally developed as an antifungal agent. However, this was abandoned when it was discovered that it had potent immunosuppressive and antiproliferative properties. It has since been shown to prolong the life of mice and might also be useful in the treatment of certain cancers.

Contents [hide]

Sirolimus



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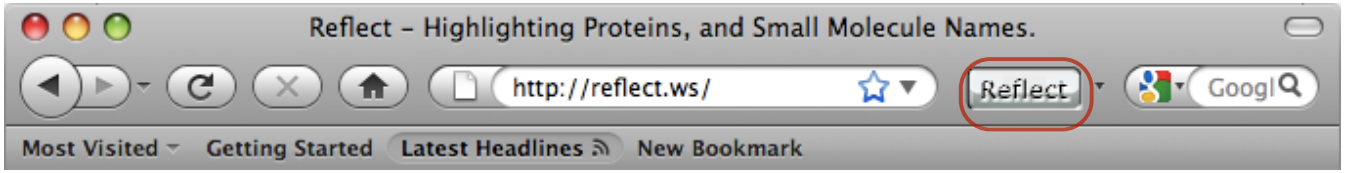
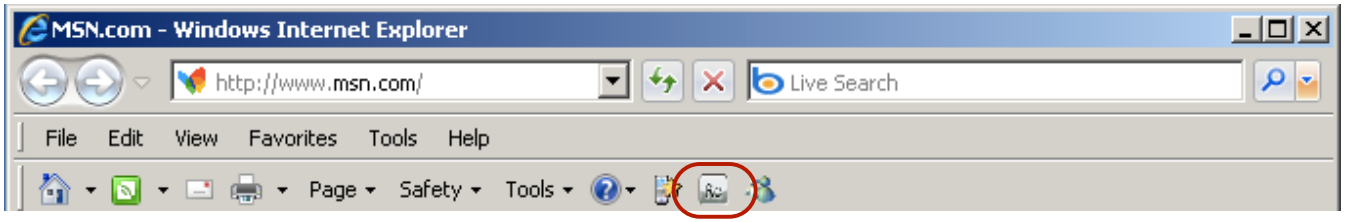
Plug-In

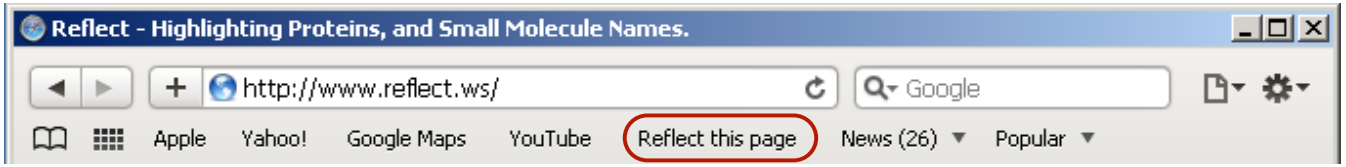
- Firefox



- Internet Explorer



- Bookmarklet



Technical details

- Tagging Server
  - 7.4 million Chemicals (24.2 million synonyms)
  - 2.6 million Proteins (20.6 million synonyms)
  - 32GB of memory
- Queuing System

API Services

- provide tagged document
  - GetHTML
- URL to document on the Reflect server
  - GetURI
- XML of found names
  - GetEntities

API protocol

- REST
- SOAP

API Input

- document

  AND/OR

- document identifier
  (URI, DOI)

GetHTML Examples

http://reflect.cbs.dtu.dk/REST/GetHTML?*document=<html>....</html>*

http://reflect.cbs.dtu.dk/REST/GetHTML?*URI=http://en.wikipedia.org/wiki/Sirolimus*

http://reflect.cbs.dtu.dk/REST/GetHTML?*DOI=10.1006/jmbi.1998.2345*

GetHTML Examples

- Entity Type
  - Taxonomy ID
  - -1 => Chemicals
- Autodetect Entities
- Autodetet DOI

GetHTML Examples

http://reflect.cbs.dtu.dk/REST/GetHTML?*document=<html>....</html>*

http://reflect.cbs.dtu.dk/REST/GetHTML?*URI=http://en.wikipedia.org/wiki/Sirolimus*

http://reflect.cbs.dtu.dk/REST/GetHTML?*DOI=10.1006/jmbi.1998.2345*

http://reflect.cbs.dtu.dk/REST/GetHTML?***document***=*<html>...*
*</html>&****entity_types****=-1 9606 10090&****uri****=http://en.wikipedia.org/wiki/Sirolimus*

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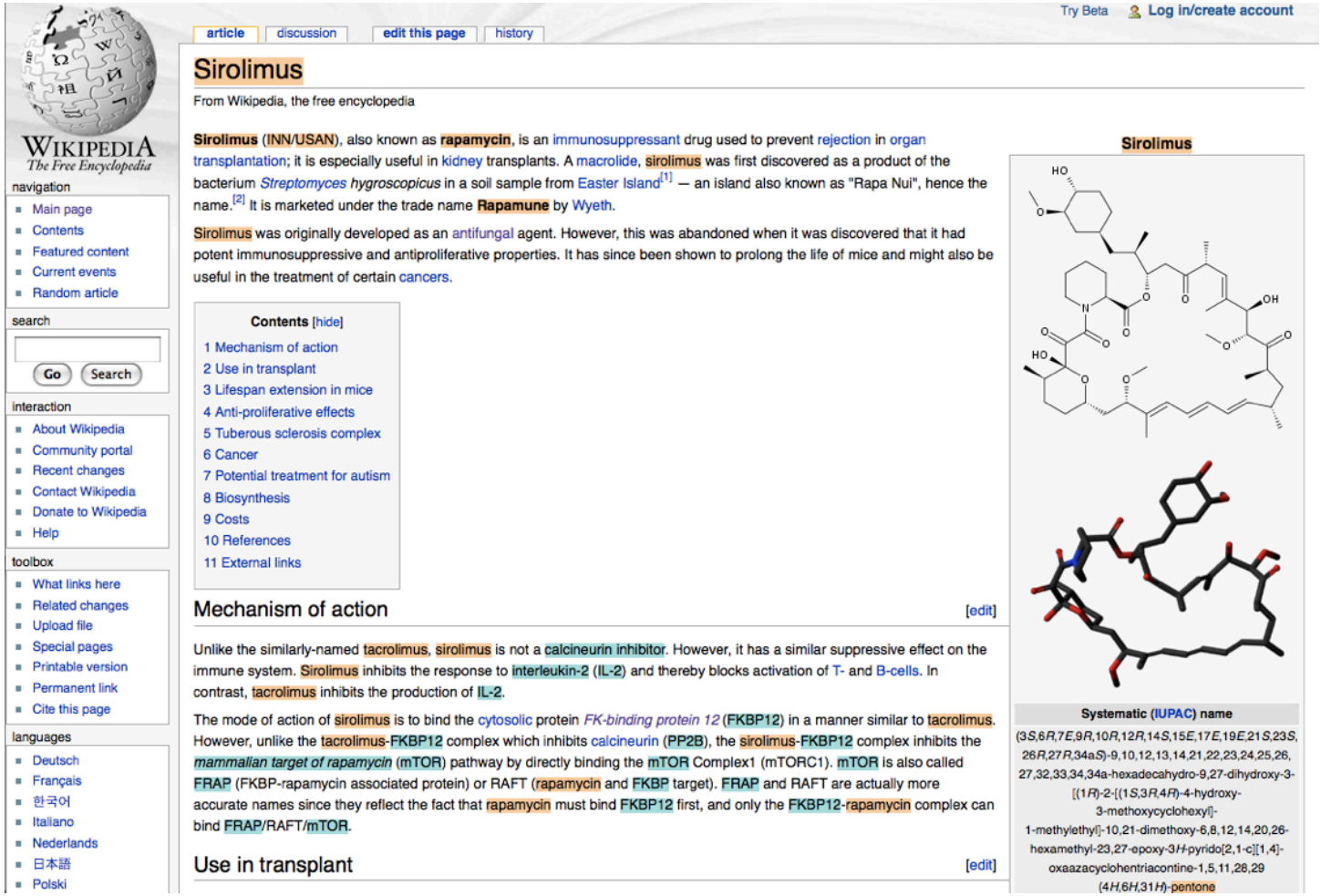

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Contents [hide]

Sirolimus

Systematic (IUPAC) name

(3*S*,6*R*,7*E*,9*R*,10*R*,12*R*,14*S*,15*E*,17*E*,19*E*,21*S*,23*S*,26*R*,27*R*,34a*S*)-9,10,12,13,14,21,22,23,24,25,26,27,32,33,34,34a-hexadecahydro-9,27-dihydroxy-3-[(1*R*)-2-[(1*S*,3*R*,4*R*)-4-hydroxy-3-methoxycyclohexyl]-1-methylethyl]-10,21-dimethoxy-6,8,12,14,20,26-hexamethyl-23,27-epoxy-3*H*-pyrido[2,1-c][1,4]-oxaazacyclohentriacontine-1,5,11,28,29(4*H*,6*H*,31*H*)-pentone

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Use in transplant [edit]

GetEntities Example

```
<item>
    <name>FRAP</name>
    <count>2</count>
    <entities>
        <entity>
            <type>10090</type>
            <identifier>ENSMUSP00000099510</identifier>
        </entity>
        <entity>
            <type>10090</type>
            <identifier>ENSMUSP00000032971</identifier>
        </entity>
        <entity>
            <type>9606</type>
            <identifier>ENSP00000350934</identifier>
        </entity>
        <entity>
            <type>9606</type>
            <identifier>ENSP00000354587</identifier>
        </entity>
    </entities>
</item>
```

SOAP

- CSS Styles

SOAP Request Example

```
<GetHTML>
  <document_id id_type="URI">http://en.wikipedia.org/wiki/
  Sirolimus</document_id>
  <entity_types auto_detect="0">
    <entity_type>9606</entity_type>
    <entity_type>-1</entity_type>
  </entity_types>
  <styles>
    <style entity_type="0">background-color: #99DDDD;</style>
    <style entity_type="-1">background-color: #FFCC99;</style>
  </styles>
</GetHTML>
```


Cell - Reduced IGF-1 Signaling Delays Age-Associated Proteotoxicity in Mice
http://www.cell.com/fulltext/S0092-8674(09)01426-3
Reflect
Google
Most Visited
Getting Started
Latest Headlines
New Bookmark
Cell - Reduced IGF-1 Signaling De...
Cell
Login Register Subscribe Alerts
Search by: Full Text Authors
Search
or go to Advanced Search
Home
Current Issue
Archive
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Cell, Volume 139, Issue 6, 1157-1169, 11 December 2009
doi:10.1016/j.cell.2009.11.014
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Reduced IGF-1 Signaling Delays Age-Associated Proteotoxicity in Mice
Ehud Cohen[1,7], Johan F. Paulsson[2], Pablo Blinder[3], Tal Burstyn-Cohen[4], Deguo Du[2], Gabriela Estepa[1], Anthony Adame[5], Hang M. Pham[5], Martin Holzenberger[6], Jeffery W. Kelly[2], Eliezer Masliah[5] and Andrew Dillin[1,*]
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[5] Department of Neurosciences, University of California, San Diego, 9500 Gilman Drive, La Jolla, CA 92093, USA
[6] INSERM and Université Pierre-et-Marie-Curie, UMRS 938, Hôpital Saint-Antoine, 75571 Paris 12, France
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