Gardon

Base de données d'interactions

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ENSAR
IRISA
Rennes

ACI MathRezoGenes, 29-30 novembre 2004

Plan

Plan

Vue d'ensemble

Bibliographie d'interactions intéressantes

Plan

Motivations

- besoin de données pour les réseaux de gènes
- insuffisances de l'extraction automatique

Objectifs

- saisie possible à un étudiant en biologie
- intéressant pour un biologiste
- contenu minimum
- facile à mettre à jour

Plan

Interactions

Au centre : une interaction

- (ou « action »)
- catégorisée
  - comportementale : action de X sur (la concentration d') Y
  - biochimique : le clivage de X, avec les facteurs a et b, donne X'
- typée : activation, inhibition, phosphorylation, transcription, etc.
- avec divers attributs : article, espèce, tissus, etc.

Produits

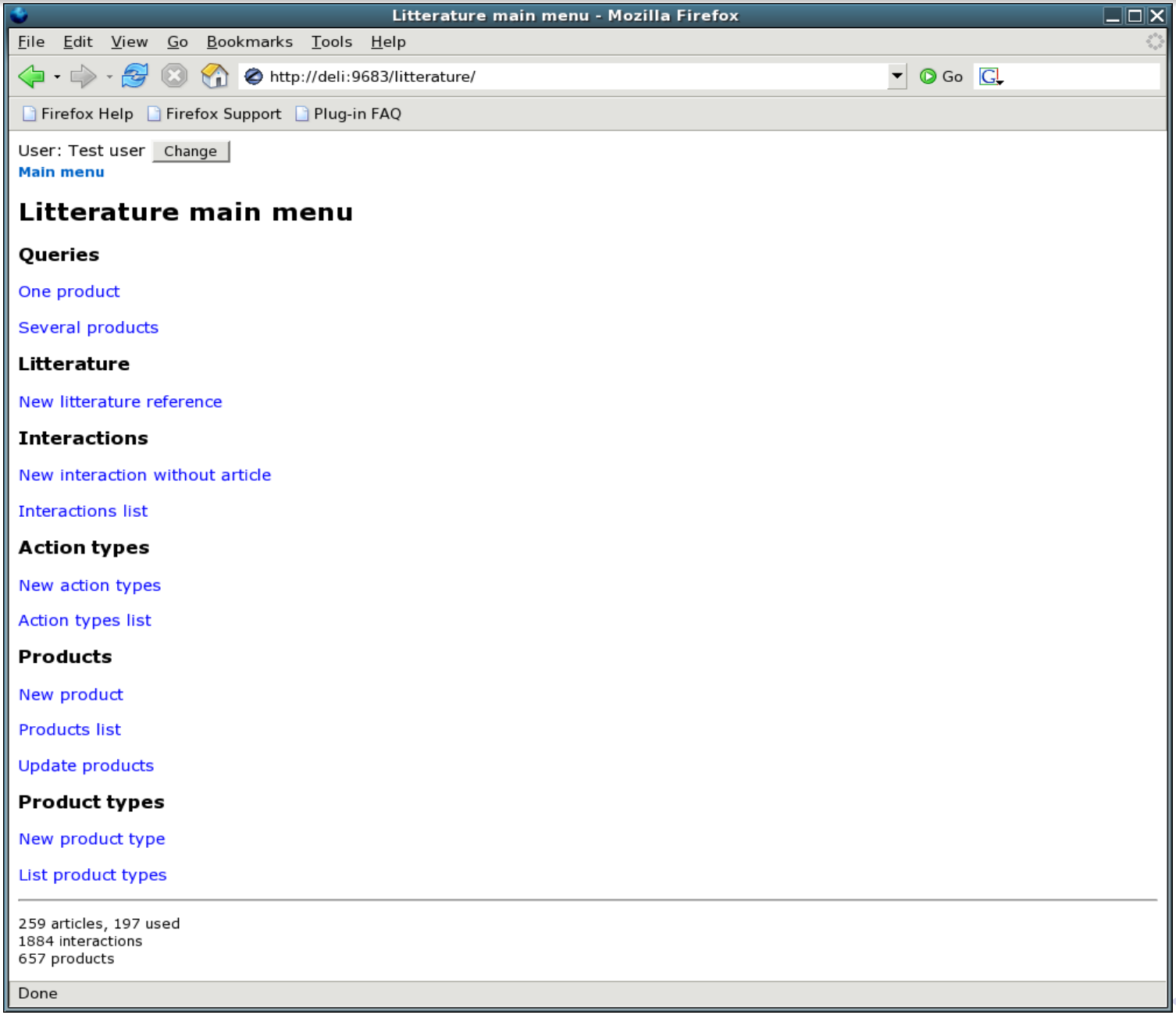
- type :
  - produit de gène
  - autre substance
- identifiant
- raccourcis
- synonymes

Articles

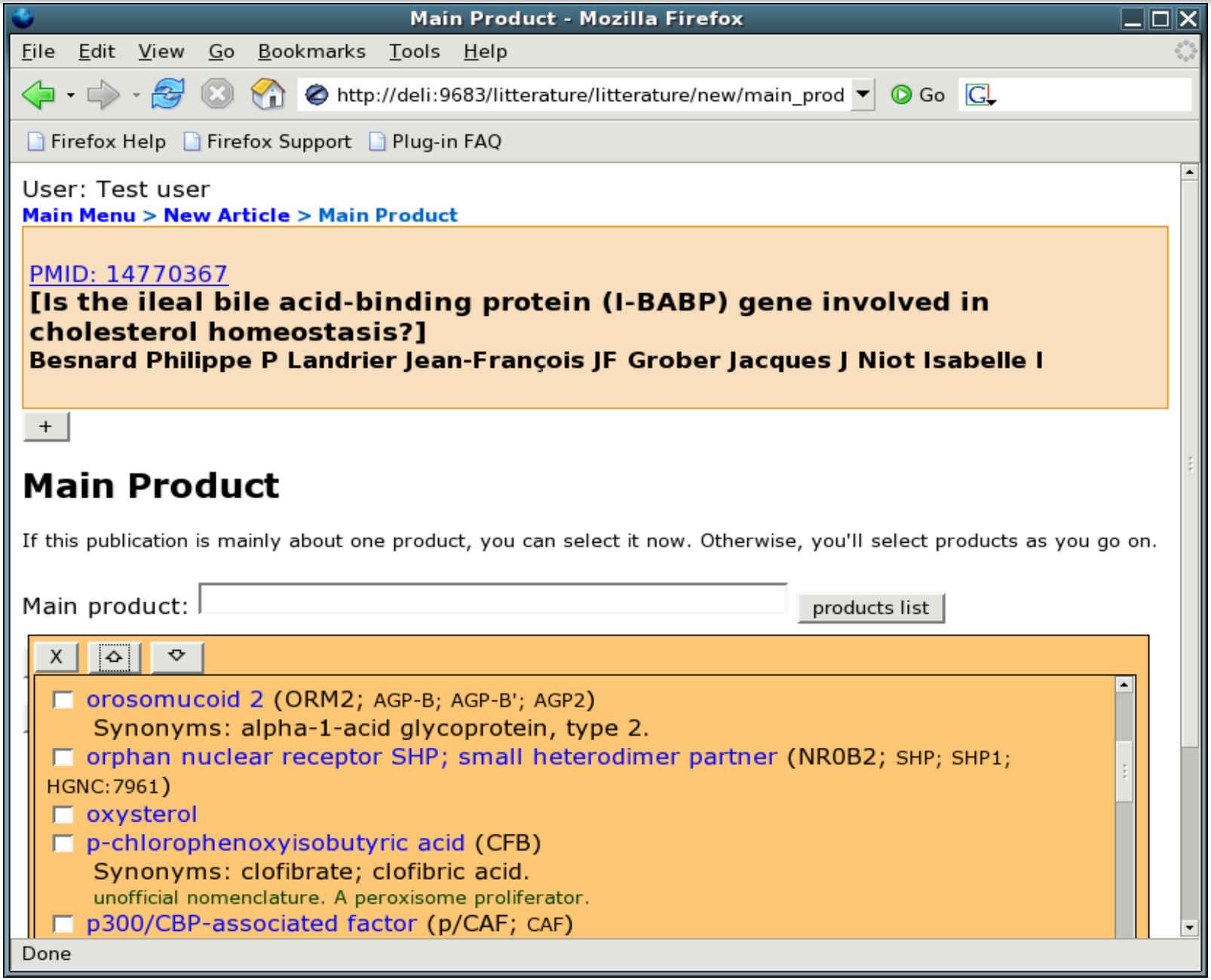
Informations Pubmed :

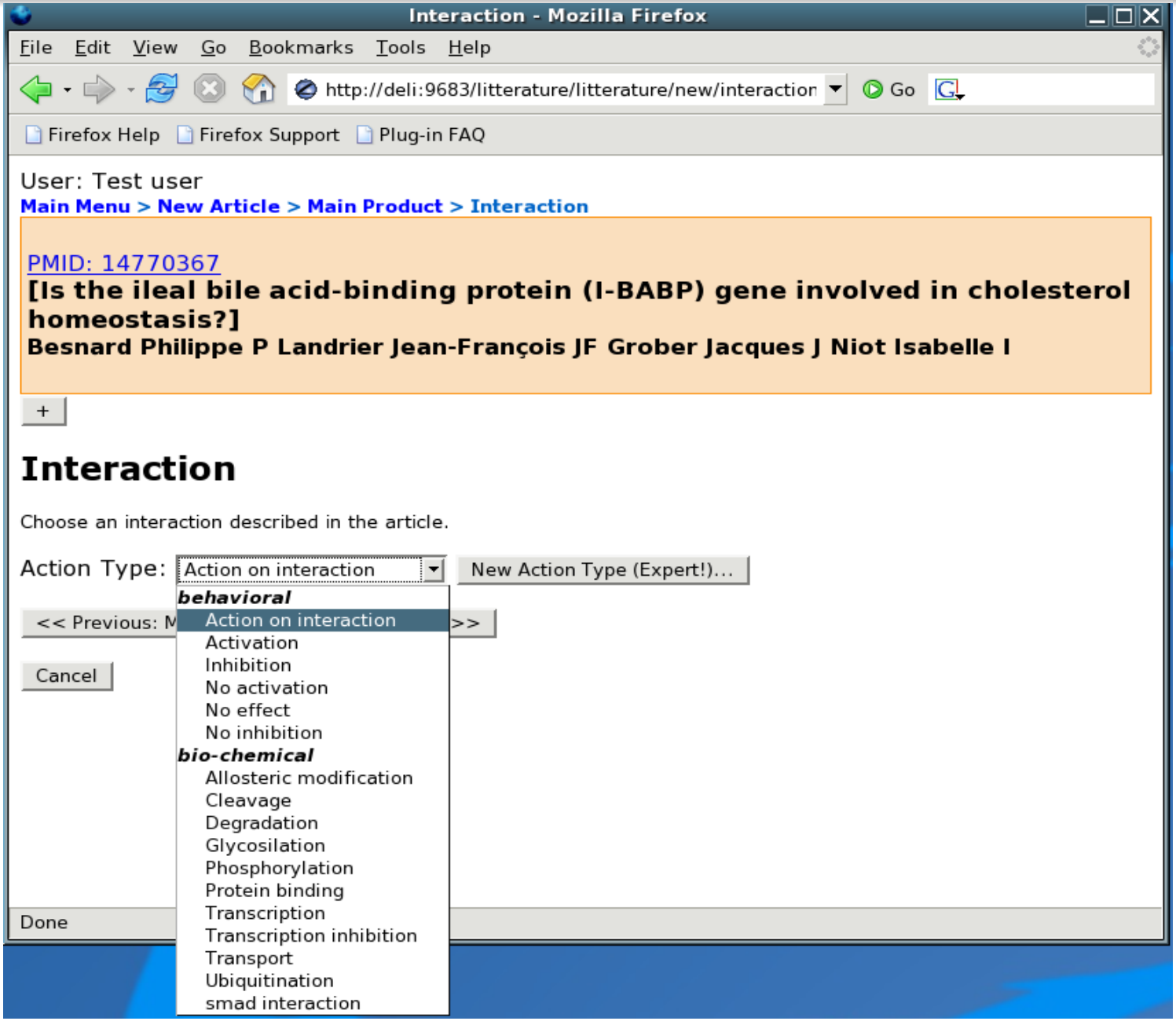
- titre
- auteurs
- date de publication, journal, etc.
- résumé
- identifiant Pubmed

Plan


Litterature main menu - Mozilla Firefox
File Edit View Go Bookmarks Tools Help
http://deli:9683/litterature/
Go
Firefox Help
Firefox Support
Plug-in FAQ
User: Test user
Change
Main menu
Litterature main menu
Queries
One product
Several products
Litterature
New litterature reference
Interactions
New interaction without article
Interactions list
Action types
New action types
Action types list
Products
New product
Products list
Update products
Product types
New product type
List product types
259 articles, 197 used
1884 interactions
657 products
Done


New Article - Mozilla Firefox
File Edit View Go Bookmarks Tools Help
http://deli:9683/litterature/litterature/new/
Go
Firefox Help
Firefox Support
Plug-in FAQ
User: Test user
Main Menu > New Article
New Article
Please enter a PubMed article number.
PubMed ID: 14770367
OK
Open a PubMed window
Next: Main Product >>
Cancel
PMID: 14770367
Med Sci (Paris)
ISSN: 0767-0974
20 1
2004 Jan
[Is the ileal bile acid-binding protein (I-BABP) gene involved in cholesterol homeostasis?]
73-7
Besnard Philippe P Landrier Jean-François JF Grober Jacques J Niot Isabelle I
Laboratoire de physiologie de la nutrition, Ecole nationale supérieure de biologie appliquée à la nutrition et à l'alimentation (ENSBANA), UMR 5170-CESG Cnrs/INRA/Université de Bourgogne, 1, esplanade Erasme, 21000 Dijon, France.
In the body, cholesterol balance results from an equilibrium between supplies (diet and cellular de novo synthesis), and losses (cellular use and elimination in feces, essentially as bile acids). Bile acids are synthesized from cholesterol in the liver. After conjugation to glycine or taurine, bile acids are secreted with bile in the intestinal lumen where they actively participate to the digestion and absorption of dietary fat and lipid-soluble vitamins. In healthy subjects, more than 95% of bile acids are reabsorbed throughout the small intestine and returned by the portal vein to the liver, where they are secreted again into bile. This enterohepatic circulation is essential for maintenance of bile acids balance, and hence, for cholesterol homeostasis. Indeed, the bile acids not reclaimed by intestinal absorption constitute the main physiological way to eliminate a cholesterol excess. Little is known about the molecular mechanisms controlling bile acids reabsorption by the small intestine. The intestinal bile acids uptake mainly takes place through an active transport located in the distal part of the small intestine. To date, four unrelated proteins exhibiting a high affinity for bile acids have been identified in the ileum, and only one, the ileal bile acid-binding protein (I-BABP) is a soluble protein. Therefore, it is thought to be essential for efficient bile acids desorption from the apical plasma membrane, as well as for bile acids
Done


Main Product - Mozilla Firefox
File Edit View Go Bookmarks Tools Help
http://deli:9683/litterature/litterature/new/main_prod
Go
Firefox Help
Firefox Support
Plug-in FAQ
User: Test user
Main Menu > New Article > Main Product
PMID: 14770367
[Is the ileal bile acid-binding protein (I-BABP) gene involved in cholesterol homeostasis?]
Besnard Philippe P Landrier Jean-François JF Grober Jacques J Niot Isabelle I
+
Main Product
If this publication is mainly about one product, you can select it now. Otherwise, you'll select products as you go on.
Main product:
products list
X
orosomucoid 2 (ORM2; AGP-B; AGP-B'; AGP2)
Synonyms: alpha-1-acid glycoprotein, type 2.
orphan nuclear receptor SHP; small heterodimer partner (NR0B2; SHP; SHP1; HGNC:7961)
oxysterol
p-chlorophenoxyisobutyric acid (CFB)
Synonyms: clofibrate; clofibric acid.
unofficial nomenclature. A peroxisome proliferator.
p300/CBP-associated factor (p/CAF; CAF)
Done


Interaction - Mozilla Firefox
File Edit View Go Bookmarks Tools Help
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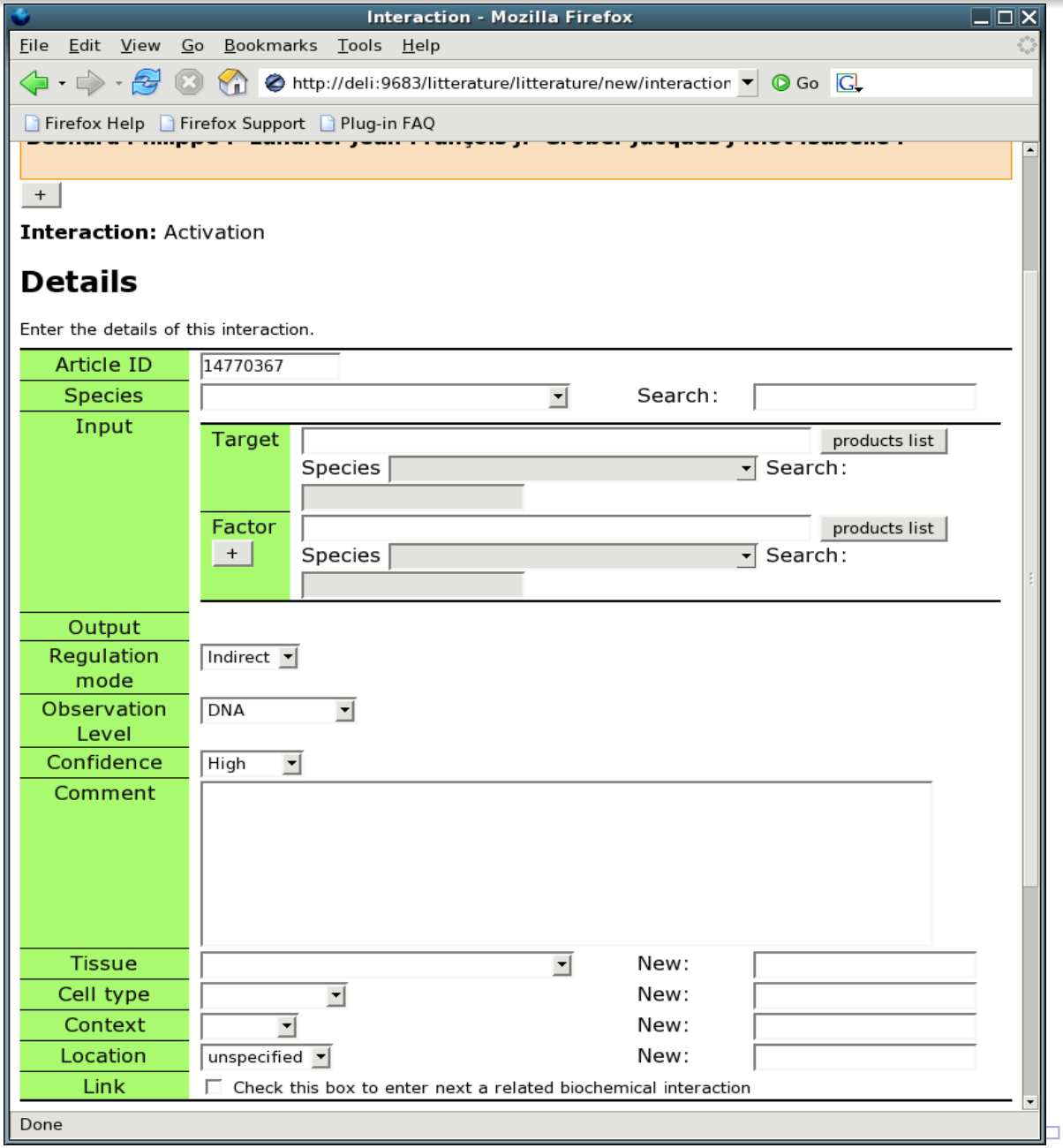
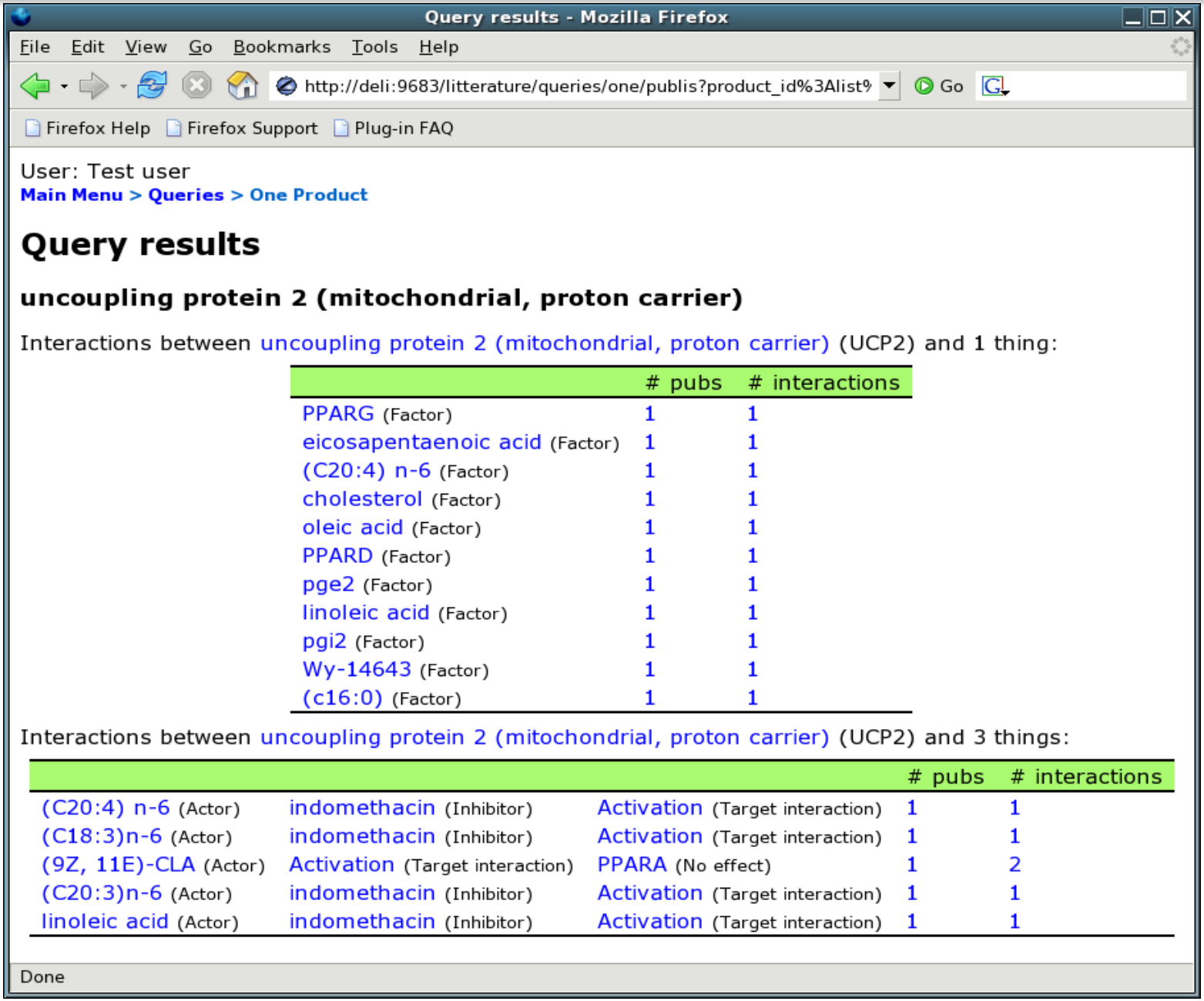
Firefox Help
Firefox Support
Plug-in FAQ
User: Test user
Main Menu > New Article > Main Product > Interaction
PMID: 14770367
[Is the ileal bile acid-binding protein (I-BABP) gene involved in cholesterol homeostasis?]
Besnard Philippe P Landrier Jean-François JF Grober Jacques J Niot Isabelle I
+
Interaction
Choose an interaction described in the article.
Action Type:
Action on interaction
New Action Type (Expert!)...
<< Previous: M
>>
Cancel
behavioral
Action on interaction
Activation
Inhibition
No activation
No effect
No inhibition
bio-chemical
Allosteric modification
Cleavage
Degradation
Glycosilation
Phosphorylation
Protein binding
Transcription
Transcription inhibition
Transport
Ubiquitination
smad interaction
Done


Interaction - Mozilla Firefox
File Edit View Go Bookmarks Tools Help
http://deli:9683/litterature/litterature/new/interaction
Go
Firefox Help
Firefox Support
Plug-in FAQ
+
Interaction: Activation
Details
Enter the details of this interaction.
Article ID
14770367
Species
Search:
Input
Target
products list
Species
Search:
Factor
+
products list
Species
Search:
Output
Regulation mode
Indirect
Observation Level
DNA
Confidence
High
Comment
Tissue
New:
Cell type
New:
Context
New:
Location
unspecified
New:
Link
Check this box to enter next a related biochemical interaction
Done



User: Test user

Main Menu > Queries > One Product

Query results

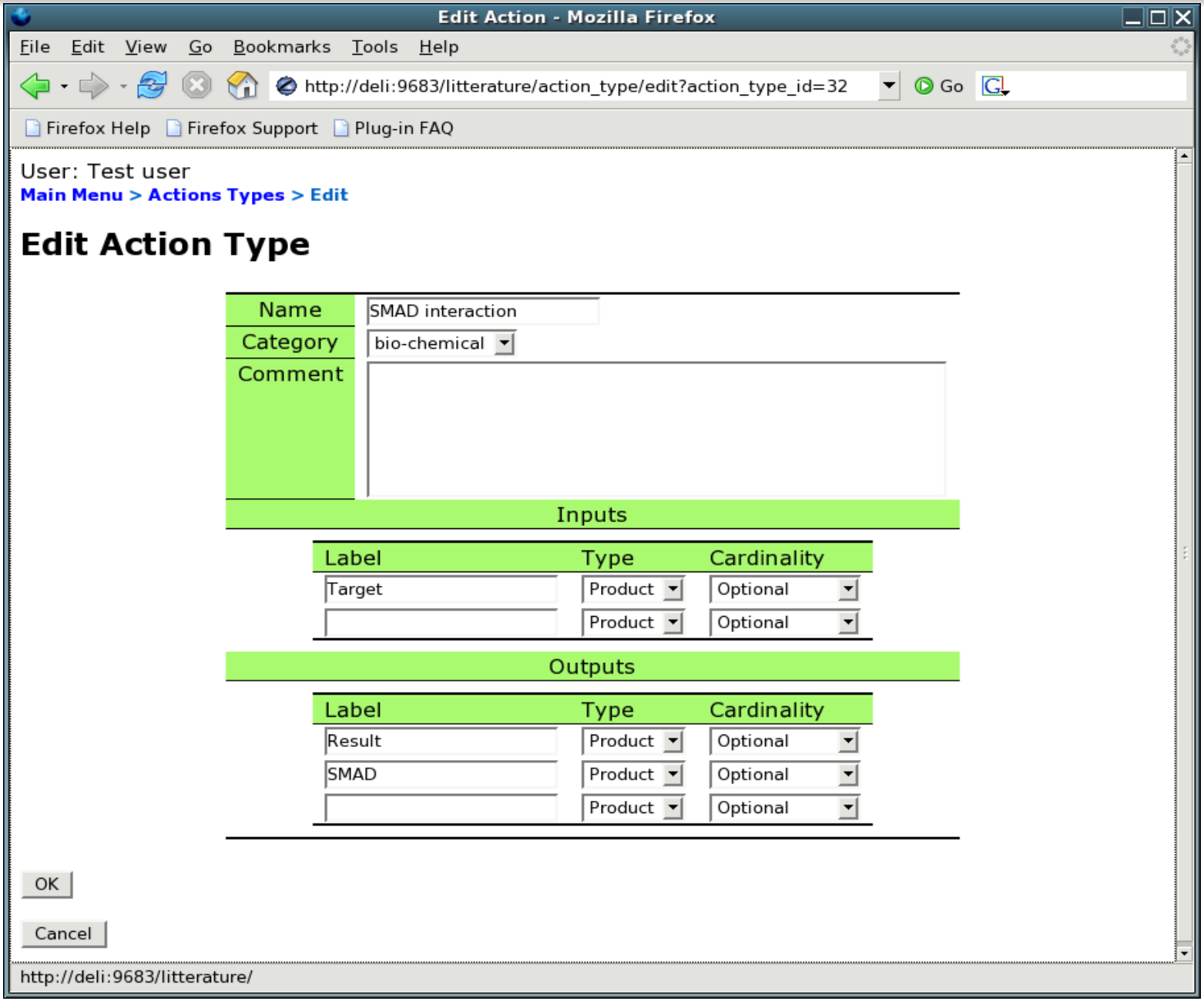
uncoupling protein 2 (mitochondrial, proton carrier)

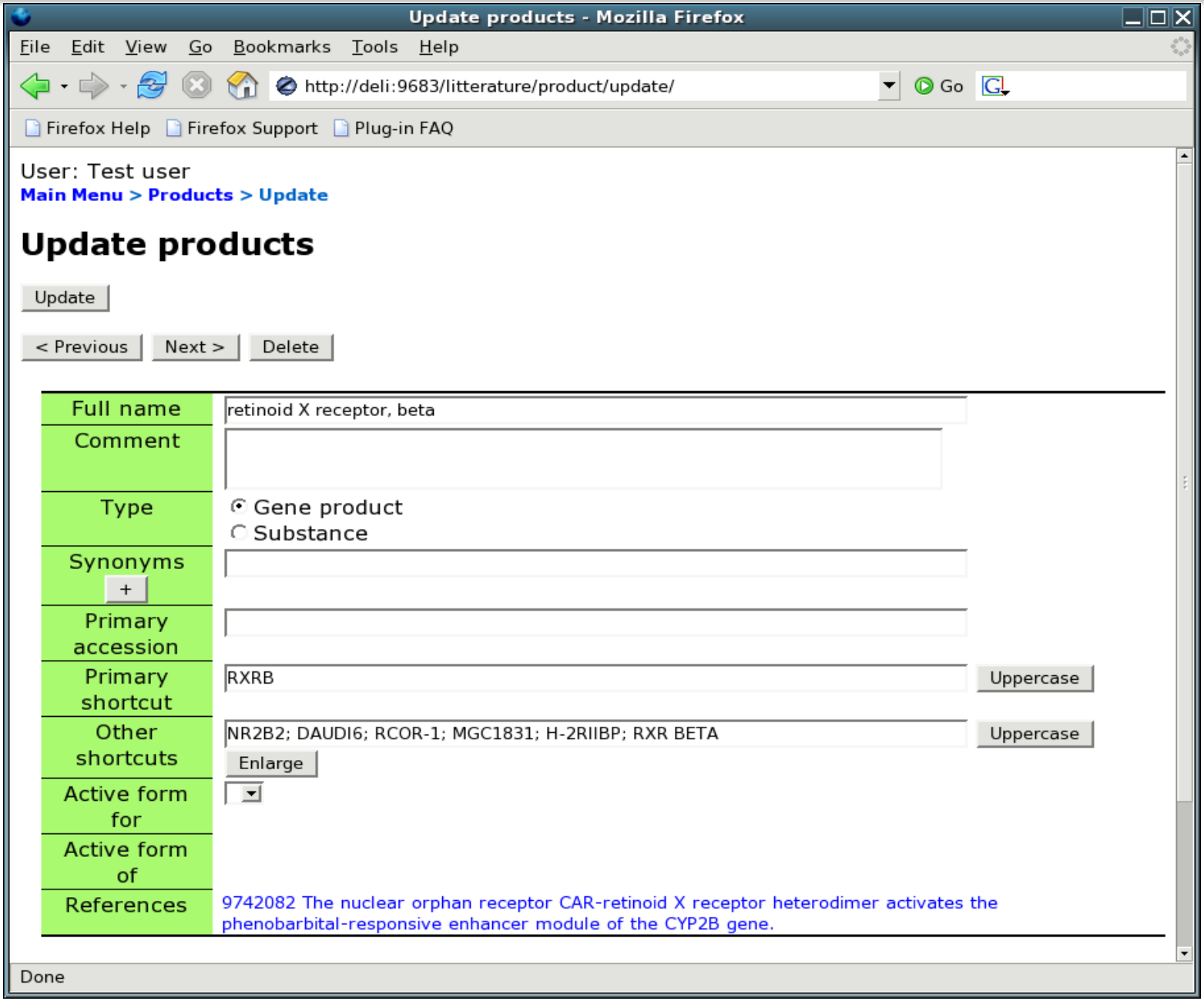
Interactions between uncoupling protein 2 (mitochondrial, proton carrier) (UCP2) and 1 thing:

	# pubs	# interactions
PPARG (Factor)	1	1
eicosapentaenoic acid (Factor)	1	1
(C20:4) n-6 (Factor)	1	1
cholesterol (Factor)	1	1
oleic acid (Factor)	1	1
PPARD (Factor)	1	1
pge2 (Factor)	1	1
linoleic acid (Factor)	1	1
pgi2 (Factor)	1	1
Wy-14643 (Factor)	1	1
(c16:0) (Factor)	1	1

Interactions between uncoupling protein 2 (mitochondrial, proton carrier) (UCP2) and 3 things:

			# pubs	# interactions
(C20:4) n-6 (Actor)	indomethacin (Inhibitor)	Activation (Target interaction)	1	1
(C18:3)n-6 (Actor)	indomethacin (Inhibitor)	Activation (Target interaction)	1	1
(9Z, 11E)-CLA (Actor)	Activation (Target interaction)	PPARA (No effect)	1	2
(C20:3)n-6 (Actor)	indomethacin (Inhibitor)	Activation (Target interaction)	1	1
linoleic acid (Actor)	indomethacin (Inhibitor)	Activation (Target interaction)	1	1


Edit Action - Mozilla Firefox
File Edit View Go Bookmarks Tools Help
http://deli:9683/litterature/action_type/edit?action_type_id=32
Go
Firefox Help
Firefox Support
Plug-in FAQ
User: Test user
Main Menu > Actions Types > Edit
Edit Action Type
Name
SMAD interaction
Category
bio-chemical
Comment
Inputs
Label
Type
Cardinality
Target
Product
Optional
Product
Optional
Outputs
Label
Type
Cardinality
Result
Product
Optional
SMAD
Product
Optional
Product
Optional
OK
Cancel
http://deli:9683/litterature/


Update products - Mozilla Firefox
File Edit View Go Bookmarks Tools Help
http://deli:9683/litterature/product/update/
Go
Firefox Help
Firefox Support
Plug-in FAQ
User: Test user
Main Menu > Products > Update
Update products
Update
< Previous
Next >
Delete
Full name
retinoid X receptor, beta
Comment
Type
Gene product
Substance
Synonyms
+
Primary accession
Primary shortcut
RXRB
Uppercase
Other shortcuts
NR2B2; DAUDI6; RCOR-1; MGC1831; H-2RIIBP; RXR BETA
Uppercase
Enlarge
Active form for
Active form of
References
9742082 The nuclear orphan receptor CAR-retinoid X receptor heterodimer activates the phenobarbital-responsive enhancer module of the CYP2B gene.
Done

Plan

Problèmes

- la demande a changé
  classer les produits par type
- j'ai oublié des choses
  Garmen a besoin de localiser les interactions
- du flou
  nom des produits
- bogues du programme d'application web
  corrigés ou contournés différemment sur la machine de développement et celle d'exploitation
- pas testé sur Mac avec Safari

Bilan

- 2 stagiaires d'été :
  - 200 articles
  - 650 produits
  - 2000 interactions
- futur :
  - requêtes plus « intelligentes »
  - requêtes sur Enzymes et autres bases

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