User manual for Hepatitis C Virus protein interaction database (HCVpro)

Section A

1. Home Page

The index page accessible via [http://apps.sanbi.ac.za/hcvpro/](http://apps.sanbi.ac.za/hcvpro/) displays brief information about HCVpro and the menus (Search, manual, statistics, FAQ, links, download and contact)
2. Querying database

![Access to user query interface]

3. Sub menu queries

The enhanced user query interfaces enable users to perform searches via HCVpro by browsing the following sub query menus:

**Protein Select**

- HCV proteins: e.g. E2
- Human proteins: e.g. CD81
- Human Chromosome number: e.g. 10

**Evidence**

- Experiment type: e.g. coimmunoprecipitation
- PubMed ID: e.g. 10846074

**Identifier Search**

- HCVpro ID: e.g. hcv0128
- BIND ID: e.g. 183964
- MINT ID: e.g. MINT-14803

**String Search**

- Gene Name: e.g. Vimentin
- Gene ID: e.g. 7431
- Gene symbol: e.g. VIM
Section B

Protein Search

Here, we demonstrate querying of the HCVpro via the Hepatitis C Virus (HCV) proteins sub menu by browsing the list of HCV proteins. To retrieve interaction details on “NS5A” protein:

1. Click on “NS5A” protein

   (NB: you may perform multiple queries by holding on the CTRL key and selecting the proteins simultaneously.)

2. Click on select to return a list of protein interactions as shown below:
3. Click on “SRCAP” protein to retrieve interaction details and enriched functional biological information on both “NS5A” and “SRCAP” proteins as below:
Click on all cross-referenced links to familiarize yourself with the information they provide.

4. Click on “Details Molecule A” link to retrieve comprehensive information on “NS5A”


5. Click on “Details Molecule B” to retrieve comprehensive information on “SRCAP”


**Explained data fields**

Hepatocellular carcinoma associated genes are cross-referenced to the sources below:

- **HCCNet**: Hepatocellular carcinoma network database
- **EHCO**: Encyclopedia of hepatocellular carcinoma genes online
- **Oncodb.hcc**: Oncogenomic Database of hepatocellular carcinoma

NB: For details on EHCO gene expression levels consult: [http://ehco.iis.sinica.edu.tw/](http://ehco.iis.sinica.edu.tw/)
Section C

Here, we demonstrate querying of the HCVpro via string search using the protein “vimentin”

1. Type “Vimentin” in the search area

2. Click on “search” to return a list of protein as shown below:

3. Click on “HCV interactions” as indicated above to access the protein interactions
• Click on “details” as indicated above to retrieve detailed interaction data on vimentin:

4. Click on “Details Molecule A” link to retrieve comprehensive information on “NS3”
   For illustration view here: http://apps.sanbi.ac.za/hcvpro/details_hcvprot.php?id=397&mol=a

5. Click on “Details Molecule B” to retrieve comprehensive information on “vimentin”
   For illustration view here: http://apps.sanbi.ac.za/hcvpro/details_humanprot.php?id=397
The diagram below shows a snapshot of data on vimentin and links to GO ontologies, hepatocellular carcinoma databases, canonical pathways and other essential databases.