

How to Use

How to Search

We offer users three different ways to retrieve data: Categorical Search, Keyword Search, and Advanced Search. Each search strategy returns results with detailed information about the corresponding biomarker.

Categorical Search

Users can access biomarker data through the menu on the left side of the "Biomarkers" page. There are currently four major categories: Protein, RNA, DNA and Other, and clicking on a menu item will display a list of all the corresponding biomarkers on the right side. If there is a subcategory under a major category, the relevant submenu will appear when the user clicks on the menu item. Once the user clicks on one of the markers in the biomarker list, the interface will jump to the information page. (Figure 1)

ID	BIOMARKER	LOCATION	APPLICATION	REFERENCE
1	P53	Colon, Rectum	Prognosis	Yamaguchi A et al. Cancer. 1992
2	MYC-1	Colon, Rectum	Prognosis	Yamaguchi A et al. Oncology. 1992
3	CA242	Colon, Rectum	Diagnosis	Nilsson O et al. Br J Cancer. 1992
4	Sialosyl-Tn	Colon	Prognosis	Itzkowitz SH et al. Cancer. 1990
5	Carcinoembryonic antigen (CEA)	Colon, Rectum	Prognosis	Davey P et al. Eur J Surg Oncol. 1987
6	Sialomucin	Colon, Rectum	Prognosis	Dawson PM et al. Int Surg. 1987
7	Alkaline phosphatase (AP)	Colon, Rectum	Prognosis	Abdo K et al. Eur J Cancer Clin Oncol. 1986
8	Tissue polypeptide-specific antigen (TPS)	Colon, Rectum	Diagnosis	Kornek G et al. Br J Cancer. 1985
9	Carcinoembryonic	Colon, Rectum	Prognosis	Miles WF et al. Br J Gen

ITEM	DETAIL
ID	1
Biomarker	P53
Category	Protein
NCBI Protein	P11512 (P53_HUMAN)
Description	The p53 gene is located on chromosome 17 and encodes for a 393 amino acid protein.
Region	Introns: 8; Exons: 9
Size	393
Number	110
Gender	NA
Age	NA
Location	Colon, Rectum
Stage	NA
Source	Tissue
Experiment	Immunohistochemistry
Statistics	The 3-year survival rate was 76.7% of 39 patients with p53 negative tumours and 41.9% for the patients with p53 positive tumours. There was a significant difference in the rate between the two groups of patients (P < 0.05).
Application	Prognosis
Conclusion	These results suggest that the immunoreactivity of p53 may be a biologic marker of prognostic significance.
Reference	Yamaguchi A et al. Cancer. 1992
PMID	1401000 (Cite to PubMed)
STRING Name	P53
STRING ID	<input type="button" value="SHOW STRING ID"/>

Figure 1. Search by category

Keyword Search

The second way to search the users needed marker is the key word search: input a biomarker name and then click the "search" button. It will turn to a result page including the relevant biomarker's information. (Figure 2)

The search result for the key word "p53"

ID	BIOMARKER	CATEGORY	LOCATION	APPLICATION	REFERENCE
1	PS3	Protein	Colon, Rectum	Prognosis	Yamaguchi A et al. <i>Cancer</i> . 1992
19	PS3	Protein	Colon, Rectum	Prognosis	Zeng ZS et al. <i>J Clin Oncol</i> . 1994
31	PS3	Protein	Colon, Rectum	Prognosis	Yamaguchi A et al. <i>Br J Cancer</i> . 1993
42	PS3	Protein	Colon, Rectum	Prognosis	Rehner C et al. <i>J Clin Oncol</i> . 1996
49	TP53, K-ras	Protein	Colon, Rectum	Prognosis	Hordrigham JE et al. <i>Gut</i> . 1998
78	PS3	Protein	Colon, Rectum	Prognosis	Nishi D et al. <i>Eur J Cancer</i> . 1998
98	PS3	Protein	Rectum	Treatment	Adell G et al. <i>Radiother Oncol</i> . 1999
107	PS3, Scl-2	Protein	Rectum	Prognosis	Schwartzel D et al. <i>Eur J Cancer</i> . 2000
114	PS3	Protein	Colon, Rectum	Prognosis, Treatment	Suzumura H et al. <i>Eur J Cancer</i> . 2000

The detail information of "PS3"

ITEMS	DETAIL
ID	1
Biomarker	PS3
Category	Protein
NCBI Protein	TP53 (Click to NCBI Protein)
Description	The p53 gene is located on chromosome 17p and encodes for a 53kD nuclear phosphoprotein.
Region	Shikoku, Japan, Asia
Race	Asian
Number	100
Gender	NA
Age	NA
Location	Colon, Rectum
Stage	NA
Source	Tissue
Experiment	Immunohistochemistry
Statistics	The 3 year survival rate was 96.78% of 39 patients with p53-negative carcinomas and 61.8% for the patients with p53 positive tumors; there was a significant difference in the rate between the two groups of patients (P < 0.05).
Application	Prognosis
Conclusion	These results suggest that the immunoreactivity of p53 may be a biologic marker of prognostic significance.
Reference	Yamaguchi A et al. <i>Cancer</i> . 1992
PMID	1431555 (Click to PubMed)
STRING Name	TP53
STRING PPI	<input type="button" value="SHOW STRING PPI"/>

Figure 2. Search by key word

Advanced Search

Besides upon two ways, our database also provides the advanced search function: after click the "Advanced Search" button, an advanced search interface will appear. Six keywords are currently supported including region of study (Region), cancer stage (Stage), major cancer area (Location), marker source (Source), marker usage (Application), and information of published literature (Reference). (Figure 3)

Advanced Search

Please fill out at least one item.

Region :

Stage :

Location :

Source :

Application :

Reference (First Author) :

Reference (Journal) :

Reference (Year) :

SEARCH

CBD:

Colorectal Cancer Biomarker Database

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The search result for Advanced Search

4 Biomarkers

ID	BIOMARKER	CATEGORY	REGION	LOCATION	STAGE	SOURCE	APPLICATION	REFERENCE
109	Anti-survivin antibodies	Protein	Dresden, Germany, Europe	Colon, Rectum	NA	Tissue	Diagnosis	Rohayem J et al. Cancer Res. 2000
118	Insulin-like growth factor I (IGF-I)	Protein	Manchester, UK, Europe	Colon, Rectum	NA	Tissue	Diagnosis	Renehan AG et al. J Clin Endocrinol Metab. 2000
120	Endothelin-1 (ET-1)	Protein	Leicester, UK, Europe	Colon, Rectum	NA	Blood	Diagnosis	Simpson RA et al. Br J Surg. 2000
124	Interleukin-12 (IL-12)	Other	Kita-kyushyu, Japan, Asia	Colon, Rectum	NA	Blood	Diagnosis	Nakayama Y et al. Anticancer Res. 2000

Figure 3. Advanced Search

How to Explore

Network Display

Figure 4 below is our "Explore" page.

The Explore page is designed to allow the user to select or enter any biomarker (or other proteins) of interest to obtain a network of interactions between them and to allow the user to query the network for relevant information such as topological parameters, enrichment information, etc. The available parameters are already listed on the left side.

In addition, if you enter only one protein, you will obtain its interaction with 10 other proteins (based on STRING scores). Here is an example for input protein "TP53":

Figure 4. Explore page

The left area of the page provides biomarker input and parameter selection. Users can select or input biomarkers of interest in three ways: 1) directly select the biomarkers stored in CBD2 2) upload txt or csv files 3) Type directly in the text box. After clicking the "Submit" button, the resulting network will be displayed on the upper right. Note that if only one protein is queried, the results will by default show the 10 other proteins whose network interacts with the highest confidence, we have set the default query to TP53. (Figure 5)

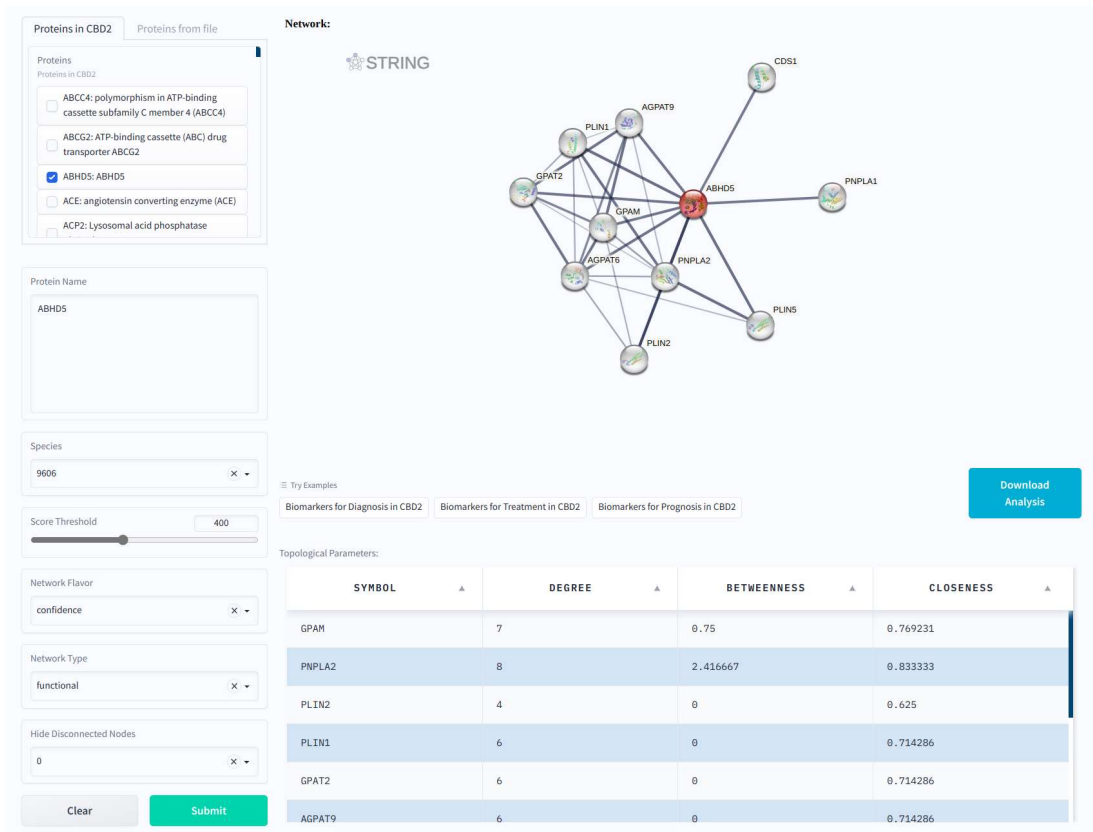


Figure 5. Network display

Network Analysis

At the same time, after the user clicks the "Submit" button, we will also return the list of network parameters and the list of enrichment analysis. By clicking the result entry id of the enrichment analysis, the user can jump to the result page of the corresponding database. (Figure 6)

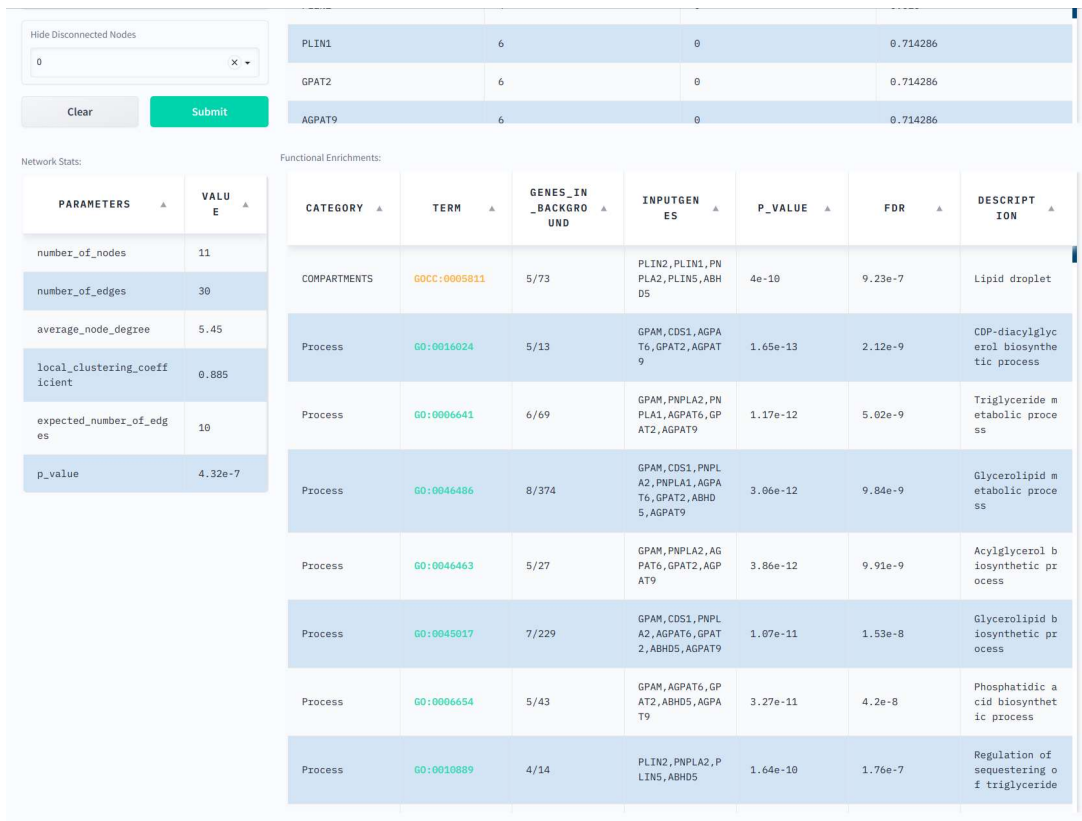


Figure 5. Network analysis

Download

The network image and network parameters could be downloaded by clicking the "Download" button.

< PREVIOUS

Items in CBD

NEXT >

FAQ

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