

## HumanPSD™

The Human Protein Survey Database (HumanPSD) is a rich information resource connecting pathways with targets, drugs and clinical trials.

Historically, it has been created as one of the nine volumes of the PROTEOME databases (Nucleic Acids Res. 30:137-141, 2002). In the beginning, it was designed as a source for comprehensive protein property documentation, displayed as locus reports, with the disease and biomarker annotation as an increasingly important annotation field.

At present, the particular value of HumanPSD lies in its extensive documentation of protein molecules as drug targets and biomarkers. This is enhanced by the TRANSPATH® database on biological pathways and networks.

### Applications

By connecting clinical phenotypes (diseases) through drugs with their targets, and further to the pathways they are involved in, HumanPSD™ supports you in making surprising discoveries.

### Further reading

Hodges et al. (2002) Annotating the human proteome: the Human Proteome Survey Database (HumanPSD) and an in-depth target database for G protein-coupled receptors (GPCR-PD) from Incyte Genomics. Nucleic Acids Res. 30:137-141.

Michael et al. (2008) Building a knowledge base for systems pathology. Brief. Bioinform. 9:518-531.

## About geneXplain

GeneXplain's mission is to provide a comprehensive platform for bioinformatic, systems biological and cheminformatic tools. The raison d'être of this platform is to assist translational research in the life sciences, mainly in the context of personalized medicine and pharmacogenomics. We intend to make our expertise available to academic and commercial partners in collaborative research projects.

### To achieve this, geneXplain also offers:

- The geneXplain platform providing a large number of bioinformatic and systems biological data analysis workflows. Unique is geneXplain's Upstream Analysis for causal interpretation of expression data.
- TRANSFAC®, the gold standard database on transcriptional regulation, containing the most comprehensive library of protein-interacting DNA sequence motifs.
- TRANSPATH®, a database of mammalian biological pathways and networks..
- PASS and PharmaExpert for predicting biological activities of compounds qualitatively
- GUSAR for QSAR model building and quantitative activity prediction

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*The Human Protein  
Survey Database, the  
information resource  
about biomarkers and  
drug targets*

HumanPSD™

geneXplain

## Table of Contents

### Introduction

Description  
Synonyms

### Biomarker Associations

Diseases associated with MYC  
Inherited MYC mutations

### Pharmacogenomics Variants

Add a subscription to PGMD™ and this report will display detailed information about:

### Drug Interactions

Drug(s) targeting MYC

### Gene Ontology

Molecular function  
Biological process  
Cellular component

### Expression

Tissue expression  
Regulation of MYC expression

### Mutant Phenotype

Mutant phenotype of closely related homolog(s)

### Pathways & Interactions

Pathways  
Protein-protein interactions  
Events acting on MYC  
Events triggered by MYC

### Transcriptional Regulation

Add a subscription to TRANSFAC® and this report will display detailed information about:

### RNA Features

Overview of RNA sequence

### Protein Features

Overview of protein sequence and structure  
Post-translational modifications of MYC protein  
View complexes containing MYC protein

### Identifiers

Accessions mapped to this record

### Annotations

Description  
Editor's Notes  
Disease related

### References

### Reports

The basic information unit is a "locus report", which summarizes the existing knowledge about the product(s) of a gene. It is part of a hierarchy, with individual proteins (isoforms such as splice variants) encoded by a gene at a level under the locus report, and summarizing features of the orthologs of human, mouse and rat origin at a higher level.

# HumanPSD™: the Human Protein Survey Database on biomarkers, drug targets, and pathways.

## Key features (figures refer to release 2019.2)

- Reports about more than 53,000 proteins and 5,400 microRNAs (human and model organisms, mostly mouse and rat)
- More than 113,000 gene-disease assignments extracted from original scientific literature and evaluated by experts, referring to about 4000 diseases (human) / disease models (mouse)
- More than 27,000 drug-protein interactions, referring to more than 8,800 drugs
- More than 647,000 clinical trial – disease assignments
- More than 601,000 assignments to Gene Ontology (GO), manually annotated and quality-checked
- More than 2,400,000 gene expression assignments
- More than 378,000 references to peer-reviewed scientific publications provided
- An integrated Ontology Browser supports easy selection of defined sets of gene/molecules
- TRANSPATH included! Comprehensive pathway information allows easy connection between molecules, diseases and pathways affected

## Biomarkers associated with Colonic Neoplasms (1598 biomarkers)

Show 10 entries

Search:

Gene/Protein details-all	Significance	Type of Association				Type of Indication		
		Causal 942 associations	Correlative 3320 associations	Preventative 475 associations	Negative 55 associations	Disease Mechanism 1210 associations	Prognosis 828 associations	Therapeutic Target 667 associations
p53	45 associations	7 associations	28 associations	5 associations	5 associations	10 associations	18 associations	7 associations
ErbB1	37 associations	12 associations	14 associations	11 associations		17 associations	14 associations	13 associations
tpx2	30 associations	1 associations	19 associations	10 associations		7 associations	11 associations	11 associations
LGR5	29 associations		29 associations				10 associations	
beta-catenin	29 associations	2 associations	23 associations	4 associations		6 associations	4 associations	4 associations
GKLF	27 associations	7 associations	19 associations	1 associations		8 associations	2 associations	1 associations
cyclinD1	25 associations	4 associations	20 associations	1 associations		5 associations	3 associations	4 associations
hsa-miR-21-5p	25 associations	9 associations	16 associations			9 associations	4 associations	
CD44	24 associations	6 associations	15 associations	3 associations		6 associations	10 associations	3 associations
mmp2	23 associations		11 associations	12 associations		4 associations	8 associations	12 associations

Showing 1 to 10 of 1,598 entries

First Previous 1 2 3 4 5 Next Last

## Benefits

- Quickly access detailed reports for individual genes, proteins, miRNAs, diseases, and drugs without time-consuming literature search.
- Uncover biologically relevant connections between seemingly disparate genes, diseases, and drugs.
- Identify and rank potential therapeutic targets based on known functional characteristics.
- Explore canonical pathways and build custom protein networks, overlaying known disease and drug associations.

## Disease / biomarker association

A tabular summary of literature-derived relationships between human genes and gene products with human diseases is given. These associations are clearly sorted according to their type, e.g. whether a gene/protein has a causal relationship with a disease to develop, or whether it is merely correlative, etc.

## Availability

- Enjoy the easy online access to HumanPSD™
- Or enjoy the privacy of a local installation on your server