

## Disease Genes Database

The Disease Genes Database is an accumulation of hundreds of diseases linked to the genes which are responsible for causing the disease. You have the option of searching by disease name and viewing the genes of the disease or you can search by gene name and view all of the diseases which that gene causes. All of the genes which are listed in the Disease Database are also linked to Protein Lounge Pathway Database and Protein Database, allowing you to view additional information about each of the genes.

This is an excellent database for anyone working in drug development. You can simply search for the disease of interest and view all of the genes which are responsible for causing the disease. From the gene names you can open the pathways which are related to the gene, allowing you to view the signal transduction involved with the gene. You can also open the protein page of the gene, giving you a detailed review about the gene, related family members, publications and sequence. From the sequence you can clone the gene, make siRNA or peptides and eventually discover a cure. All of which can be done from accessing a single database.

### Browsing the Disease Gene Database:

One can search by disease name, gene name or GenBank ID to find the disease of interest. Either the matching genes will be displayed or matching disease names will be displayed. The disease names are linked to a list of genes, which are involved in the disease, as soon below.

Gene Name	Accession No.	Disease Cause
*FLT1	NM_002019	Breast Cancer: VEGF and expression of its receptors FLT1 and KDR was determined in primary cultures more ...
*VEGFC	NM_005429	;Breast Cancer: VEGFC is a specific ligand which induces lymphangiogenesis. VEGFC is overexpressed in more ...
*FBXW7	NM_033632	.Breast Cancer: FBXW7 targets Cyclin-E for Ubiquitin-mediated proteolysis and is mutant in a breast c more ...
*PBX2	NM_002586	more ...
*BCAR1	NM_014567	;Breast Cancer: BCAR1 is a docking protein involved in intracellular signaling path more ...
*CDKN1B	NM_004064	Breast Carcinoma: CDKN1B is an inhibitor of cyclin dependent kinase involved in the regulation of the more ...
*Jun	NM_002228	Breast Cancer: The progesterone receptor (PR) gene is activated by estrogen in MCF7 human breast can more ...
*STK15	AF008551	Breast Cancer: DNA amplification on chromosome 20q13 is commonly detected in breast cancer and correl more ...
*ERK5	U25278	Breast Cancer: ERK5 participates in Neuregulin (NRG) signal transduction. Expression in MCF7 cells of more ...
*Rac1	NM_006908	Breast Cancer: Analogous to Ras, constitutively activating point mutations of Rac1 cause tumorigenic more ...
*eIF4E	NM_001968	Breast Carcinoma: eIF4E binds to the cap structure of mRNAs as one component of the eIF4 translation more ...
*FGF8	NM_033165	Breast Cancer: Expression of FGF8 has been found to be associated with breast and prostate cancer. In more ...
*Gsn	NM_000177	Breast Cancer: Loss of Gsn, a tumor suppressor, is one of the most frequently occurring molecular def more ...
	NM_002791	Breast Cancer: Monoclonal antibodies are raised against Psm-Alpha6 from normal breast glandular cells more ...
	NM_133487	Breast Cancer: BRCA1 and BRCA2 carriers are at increased risk for both breast and ovarian cancer, but more ...
	J03779	.Breast Carcinoma: CD10 is a cell surface neutral endopeptidase that is not consistently expressed i more ...
	NM_013230	Breast Carcinomas: Invasiveness and the capacity of tumor cells to form distant metastases are impor more ...

### Viewing Genes of the Disease:

Once you select a disease of interest, you can click on it to view the list of genes which cause the disease. This list of genes page will display a brief description protein's relation to causing the disease. You can view more specific details about the gene's relation in the disease or more general details about the gene by clicking on it, this will take you to the Protein Lounge Protein Database page of that gene, as shown below.

**Ovarian Carcinoma:**  
VEGF, a potent mitogen of endothelial cells, is produced in elevated amounts by many tumors, including ovarian carcinomas. The known human receptors for VEGF, FLT1 and KDR, are both cell surface tyrosine kinases and are expressed predominantly on endothelial cells. Acting through these receptors, VEGF may stimulate angiogenesis and promote tumor progression. VEGF is expressed by tumor cells in primary and metastatic ovarian carcinoma and accumulates in the stromal matrix. Its receptors, FLT1 and KDR, are expressed by some tumor cells that coexpress VEGF (Ref.1).

**Breast Cancer:**  
VEGF and expression of its receptors FLT1 and KDR was determined in primary cultures of separated epithelial and stromal-enriched cultures derived from ten primary human breast carcinomas. FLT1 was expressed by four of six epithelial and five of six stromal cultures (Ref.2).

**Hepatocellular Carcinoma:**  
FLT1 is up-regulated in Hepatocellular Carcinoma (HCC) which suggests that it may have an important role in HCC angiogenesis (Ref.3).

**Urinary Bladder Cancer:**  
TCCs (Transitional Cell Carcinoma), normal mucosae and human umbilical endothelial cells express FLT1 gene. The expression level of FLT1 gene significantly correlates with that of the VEGF gene in the tumor. These results indicate that the VEGF gene is frequently overexpressed in TCC of the urinary bladder, especially in muscle invasive tumors, and that a paracrine system including VEGF and FLT1 exists between the TCC cells and the adjacent endothelial cells so as to regulate the angiogenesis in this tumor (Ref.4).

**Preeclampsia:**

### Data About Disease Causing Gene:

You can view detailed data about the disease causing gene in the Protein Database, which is linked with Disease Database. The Protein Database contains information about the relationship of the gene in causing the disease of interest, a detailed review about the gene, links to the different Protein Lounge Pathways in which the gene is found, sequence information and publications.