

Date: 19-09-21

**WEBLEM: 1a**  
**National Center for Biotechnology Information (NCBI)**  
**(URL: <https://www.ncbi.nlm.nih.gov/> )**

## Aim:

To gather information for the query “Diabetes” using various NCBI Resources

## Introduction:

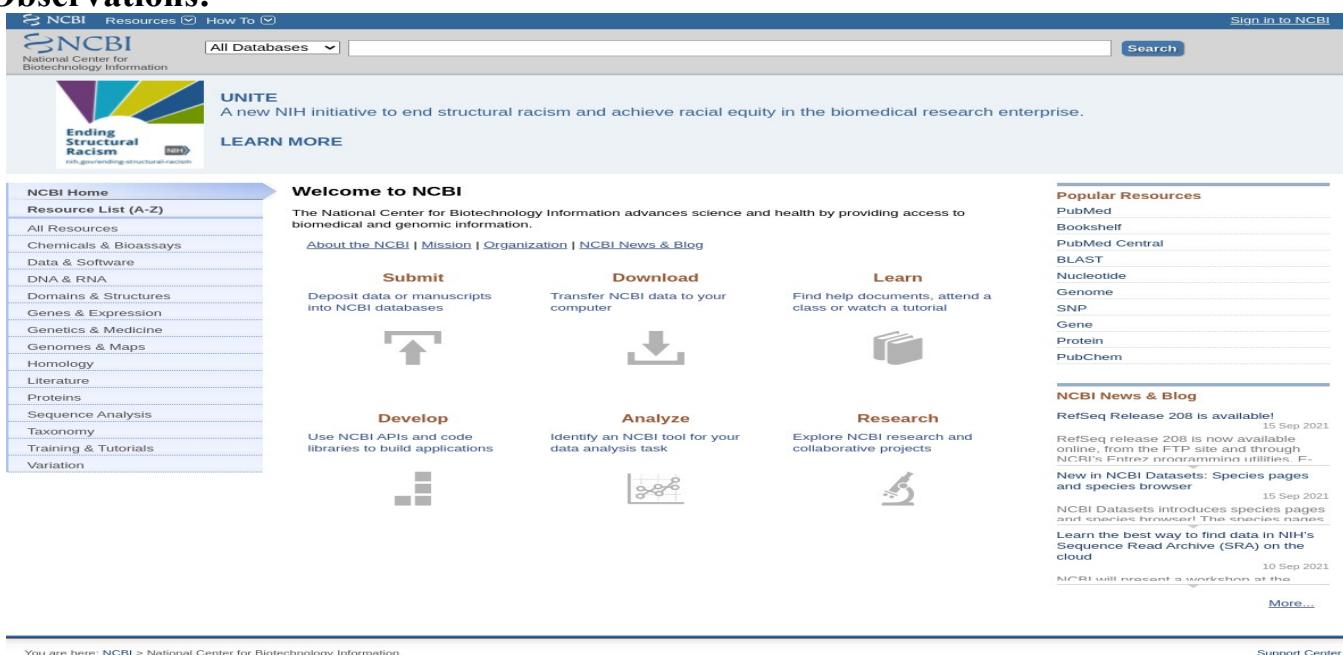
The National Center for Biotechnology Information (NCBI) was created in 1988 as a division of the National Library of Medicine (NLM) at the National Institutes of Health, to develop information systems in the field of molecular biology and bioinformatics. In addition to maintaining the GenBank, NCBI also provides data analysis and retrieval and resources that operate on GenBank data and also on a variety of other biological data made available through NCBI.

The query used today is Diabetes. Diabetes is a disorder affecting 422 million people worldwide. Most commonly observed in obese individuals above the age of 40, diabetes is directly attributed with causing about 1.6 millions deaths each year. Learning more of how this disorder works on a molecular and genomic level will help us cushion the further blow of this disease.

## Methodology:

1. Open Homepage of NCBI Database (url: <https://www.ncbi.nlm.nih.gov/> )
  2. Enter search Query of Diabetes in various resources of NCBI.
  3. Interpret the results.

## Observations:



## Fig1. NCBI Database Homepage

NCBI Resources How To Gene Diabetes Search Sign in to NCBI

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A new NIH initiative to end structural racism and achieve racial equity in the biomedical research enterprise.

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**Fig2. Search page with resource Gene selected for query “Diabetes”**

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Gene sources: Genomic, Mitochondria, Organelles

Categories: Alternatively spliced, Annotated genes, Non-coding, Protein-coding, Pseudogene

Sequence content: CCDS, Ensembl, RefSeq, RefSeqGene

Status: Current

Clear all

Show additional filters

Search results: Items: 1 to 20 of 4095

See [Lepr \(DIABETES\) Leprin receptor](#) in the Gene database

diabetes reference sequences Transcript (6) Protein (6)

Send to: [Manage Filters](#) Hide sidebar >

Results by taxon: Top Organisms [Tree]  
Homo sapiens (2166)  
Mus musculus (1138)  
Rattus norvegicus (565)  
Bos taurus (14)  
Oryctolagus cuniculus (12)  
All other taxa (200)  
More...

Find related data: Database: Select

Search details: Diabetes[All Fields] AND alive[prop]

Recent activity: Turn Off Clear  
Diabetes AND (alive[prop]) (4095)  
RecName: Full-Steroidogenic factor 1: Short=SF-1; Short=STF-1;  
Short=HSF-1; ANR...  
Diabetes (492708)  
Carcinoma (1387)  
The NCBI Handbook

**Fig3. Hit page for search query “Diabetes” in the Gene resource**

NCBI Resources How To

Gene Gene Advanced Search

Full Report  Hide sidebar >>

**Lepr : leptin receptor [ *Mus musculus* (house mouse) ]**

Gene ID: 16847, updated on 14-Sep-2021

**Summary**

Official Symbol: Lepr provided by MGI  
 Official Full Name: leptin receptor provided by MGI  
 Primary source: MGI: MGI: 104993  
 See related: Ensembl: ENSMUSG00000057722  
 Gene type: protein coding  
 RefSeq status: VALIDATED  
 Organism: *Mus musculus*  
 Lineage: Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus  
 Also known as: O; LE; db; OB; ob; Modb; Lepr; Modb1; LEPROT; obese; OB-RGP; diabetes; obese-like  
 Expression: Broad expression in bladder adult (RPKM 5.0); placenta adult (RPKM 3.3) and 18 other tissues [See more](#)  
 Orthologs: [human](#) [all](#)

**Try the new Gene table** **Try the new Transcript table**

**Genomic context**

Location: 4 C6: 4 46.96 cM

Exon count: 21

Annotation release: Status: Assembly: Chr: Location

109	current	GRCm39 (GCF_000001635_27)	4	NC_0000070.7 (101574393..101676375)
108.20200622	previous assembly	GRCm38.p6 (GCF_000001635_26)	4	NC_0000070.6 (101717137..101815352)
Bulli 37.2	previous assembly	MGSCv37 (GCF_000001635_18)	4	NC_0000070.5 (101390012..101487959)

Chromosome 4 - NC\_0000070.7



Waiting for www.ncbi.nlm.nih.gov...  Go to [reference sequence details](#) CCDS

**Genomic regions, transcripts, and products**

**Fig4. Result page for gene resource on “Diabetes” [Lepr : leptin receptor in *Mus musculus*(house mouse)]**

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Gene Gene Advanced Search

Gene sources: Genomic

Categories:  Alternatively spliced, Annotated gene, Nucleotide, Protein-coding, Pseudogene

Sequence content: CCDS, Ensembl, RefSeq, RefSeqGene

Status:  Current

[Clear all](#) [Show additional filters](#)

Search results: Items: 1 to 20 of 2737

Filters activated: Alternatively spliced, Current. [Clear all](#) to show 13329 items.

Showing Current items.

Name/Gene ID	Description	Location	Aliases	MIM
<input type="checkbox"/> <a href="#">Lepr</a> ID: 16847	leptin receptor [ <i>Mus musculus</i> (house mouse)]	Chromosome 4, NC_0000070.7 (101574393..101676375)	LE, LEPROTb, Modb, Modb1, O, OB-, OB-RGP, Ob, db, diabetes, obese-, obese-like, ob, Lepr	
<input type="checkbox"/> <a href="#">CTLA4</a> ID: 1493	cytotoxic T-lymphocyte associated protein 4 [ <i>Homo sapiens</i> (human)]	Chromosome 2, NC_000002.12 (20386771..203873965)	ALPS5, CD, CD152, CELIAC3, CTLA-4, GRD4, GSE, IDDM12	123890
<input type="checkbox"/> <a href="#">VEGFA</a> ID: 7422	vascular endothelial growth factor A [ <i>Homo sapiens</i> (human)]	Chromosome 6, NC_000006.12 (43770209..43786487)	MVCD1, VEGF, VPF	192240
<input type="checkbox"/> <a href="#">IL6</a> ID: 3569	interleukin 6 [ <i>Homo sapiens</i> (human)]	Chromosome 7, NC_000007.14 (22725889..22732002)	BSF-2, BSF2, CDF, HGF, HSF, IFN-beta-2, IFNB2, IL-6	147620
<input type="checkbox"/> <a href="#">CDKN2A</a> ID: 1029	cyclin dependent kinase inhibitor 2A [ <i>Homo sapiens</i> (human)]	Chromosome 9, NC_000009.12 (21967752..21995324, complement)	ARF, CDK4I, CDKN2, CMM2, INK4, INK4A, MLM, MTS-1, MTS1, P14, P14ARF, P16, P16-INK4A, P16INK4A, P19, P19ARF, TP16	600160
<input type="checkbox"/> <a href="#">PPARG</a> ID: 5468	peroxisome proliferator activated receptor gamma [ <i>Homo sapiens</i> (human)]	Chromosome 3, NC_000003.12 (12287368..12434344)	CIMT1, GLM1, NR1C3L, PPARG2, PPARG5, PPARGamma, PPARG	601487
<input type="checkbox"/> <a href="#">FTO</a> ID: 79068	FTO alpha-ketoglutarate dependent dioxygenase [ <i>Homo sapiens</i> (human)]	Chromosome 16, NC_000016.10 (53703963..54121941)	ALKB9, BMIQ14, GDFD	610966
<input type="checkbox"/> <a href="#">INS</a> ID: 3630	insulin [ <i>Homo sapiens</i> (human)]	Chromosome 11, NC_000011.10 (2159771..2161209, complement)	IDDM, IDDM1, IDDM2, ILPR, IRDN, MODY10, PNDM4	176730
<input type="checkbox"/> <a href="#">TCF7L2</a> ID: 6934	transcription factor 7 like 2 [ <i>Homo sapiens</i> (human)]	Chromosome 10, NC_000010.11 (112950247..113167678)	TCF-4, TCF4	602228
<input type="checkbox"/> <a href="#">IGF2</a> ID: 3481	insulin like growth factor 2 [ <i>Homo sapiens</i> (human)]	Chromosome 11, NC_000011.10 (2129117..2149566, complement)	C11orf43, GRDF, IGF-II, PP9974, SR33	147470
<input type="checkbox"/> <a href="#">KCNQ1</a> ID: 3784	potassium voltage-gated channel subfamily Q member 1 [ <i>Homo sapiens</i> (human)]	Chromosome 11, NC_000011.10 (2445008..2849110)	ATFB1, ATFB3, JLNS1, KCNA8, KCNA9, KVLT1, Kv1.9, Kv7.1, LQT1, LQT1, RWS, SQT2, WRS	607542
<input type="checkbox"/> <a href="#">PTPN22</a> ID: 26191	protein tyrosine phosphatase non-receptor type 22 [ <i>Homo sapiens</i> (human)]	Chromosome 1, NC_000001.11 (113813811..113871761, complement)	LYP, LYP1, LYP2, PEP5, PTPN22, PTPNB, PTPN22	600716
<input type="checkbox"/> <a href="#">IL2RA</a>	interleukin 2 receptor subunit alpha	Chromosome 10, NC_000010.11	CD25, IDDM10, IL2R, IMD41, TCGFR, p55	147730

**Filters: Manage Filters**

**Results by taxon**

Top Organisms: [Tree](#)  
*Homo sapiens* (1587)  
*Mus musculus* (710)  
*Rattus norvegicus* (365)  
*Oryctolagus cuniculus* (6)  
*Bos taurus* (6)  
 All other taxa (63)  
 More...

**Find related data**

Database: [Select](#)

**Search results**

Diabetes AND ("has transcript variants" [Properties] AND alive[prop])

**Recent activity**

Turn Off Clear

Diabetes AND ("has transcript variants" [Properties] AND alive[prop]) (2737)

Diabetes AND (alive[prop]) (4095)

Diabetes (1520)

RecName: Full=Steroidogenic factor 1; Short=SF-1; Short=SF1; Protein

Mus musculus leptin receptor (Lepr), transcript variant 3, mRNA

Nucleotide

See more...

Fig5. Hit page for query “Diabetes” in gene resource with limit option and refined results.

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Gene Home Help

Gene Advanced Search Builder

Filters activated: Alternatively spliced, Current. [Clear all](#)

Showing Current items.

Use the builder below to create your search

Builder

All Fields AND All Fields Show index list Show index list

Search or [Add to history](#)

History

Search	Add to builder	Query	Items found	Time
#6	Add	Search Diabetes Schema: base	13329	10:08:06
#18	Add	Search Diabetes Schema: base Filters: Alternatively spliced; Current	2737	10:08:05
#5	Add	Search Diabetes Schema: base Filters: Current	4095	10:07:56

Download history Clear history

You are here: NCBI > Genes & Expression > Gene

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Fig6. Advanced search of query “Diabetes” in Gene Resource

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Fig7. Search page with resource NLM Catalog selected with query “Diabetes”

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NLM Catalog NLM Catalog Diabetes Create alert Advanced

NCBI journals Journals referenced in the NCBI DBs

Currently Indexed Journals currently indexed in MEDLINE Customize ...

Languages English Spanish Customize ...

Clear all Show additional filters

Summary 20 per page Sort by Publication Date

Send to: Filters: Manage Filters

Search results Items: 1 to 20 of 8767

ABC of wound healing

Price, Annie, (Of Welsh Wound Innovation (Organization)); Grey, Joseph E; Patel, Girish, (Of Cardiff University); Harding, K G (Keith G). Second edition. Hoboken, NJ : Wiley, 2022. NLM ID: 9918226079906676 [Book]

Advancing health education with telemedicine

López Cabrera, Mildred, 1987-. Hershey, PA : Medical Information Science Reference, [2022] NLM ID: 9918230504306676 [Book]

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Abali, Emine Ercikan; Cline, Susan D; Franklin, David S; Viselli, Susan; Ferrier, Denise R. Biochemistry. Eighth edition. Philadelphia : Wolters Kluwer, [2022] NLM ID: 101771761 [Book]

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Foundations of rural public health in America

Minelli, Mark J; Inungu, Joseph N. First edition. Burlington, MA : Jones & Bartlett Learning, [2022] NLM ID: 101770023 [Book]

Handbook of research on assertiveness, clarity, and positivity in health literacy

PubMed Search Builder

Search details

Search

Recent Activity

Turn Off Clear

Diabetes (8767) NLM Catalog

RecName: Full=Steroidogenic factor 1; Short=SF-1; Short=STF-1; Short=hSF- Protein

Lepr leptin receptor [Mus musculus] Gene

Diabetes AND (alive[prop]) (4095) Gene

Carcinoma (1387) Structure

See more...

Fig8. Hit page for search query “Diabetes” in NLM catalog resource

NCBI Resources How To

NLM Catalog NLM Catalog Advanced

Full

ABC of wound healing

**Author(s):** Price, Annie, (Of Welsh Wound Innovation (Organization)), editor  
Grey, Joseph E, editor  
Patel, Girish, (Of Cardiff University), editor  
Harding, K G (Keith G), editor

**Title(s):** ABC of wound healing / edited by Annie Price, Joseph E. Grey, Girish Patel, Keith G. Harding.

**Series:** ABC series

**Edition:** Second edition.

**Country of Publication:** United States

**Publisher:** Hoboken, NJ : Wiley, 2022.

**Description:** pages cm

**Language:** English

**ISBN:** 9780470659970  
9781118593844  
9781118593837

**LCCN:** 2021028004

**Summary:** "Wounds are common and their treatment is a costly aspect of clinical practice. Wounds have a diverse aetiology, aside from trauma and burns, and include underlying medical conditions such as diabetes mellitus, peripheral vascular disease, ischaemic heart disease and connective tissue diseases"--

**MeSH:** Ulcer/therapy  
Wound Healing/physiology  
Wounds and Injuries/diagnosis\*  
Wounds and Injuries/therapy

**Publication Type(s):** Handbook

**Contents:** Wound assessment / J.E. Grey, G.K. Patel -- Traumatic wounds / S.L.A. Jeffery, S. Enoch -- Surgical wounds and surgical site infection / R. Harries, J. Torkington, D. Leaper -- Burns / J.J. Cubitt, W.A. Dickson -- Diabetic foot ulcers / M. Edmonson, A. Price -- Venous and arterial leg ulcers / J.E. Grey, G.K. Patel -- Pressure injuries J.E. Grey, J. Fletcher -- Uncommon causes of ulceration / G.K. Patel, V. Piguet - - Infections / B. Healey, A. Freedman - - Lymphoedema and wounds / C. Moffatt, M. Thomas -- Nutrition, skin care and continence / A. Ferris, J.E. Grey, G.K. Patel -- Scars / P. Martin, D.A. McGrouther -- Dressings and Devices / S. Holloway, S. Enoch, J.E. Grey -- Drugs and Biological Approaches to Wound Healing / G. Schultz, G.K. Patel.

**NLM ID:** 9918226079906676 [Book]

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Diabetes (8767) NLM Catalog

RecName: Full=Steroidogenic factor 1; Short=SF-1; Short=STF-1; Short=hSF- Protein

Lepr leptin receptor [Mus musculus] Gene

Diabetes AND (alive[prop]) (4095) Gene

Carcinoma (1387) Structure

See more...

Fig9. Result Page for NLM catalog resource on “Diabetes” [ABC of wound healing]

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NLM Catalog NLM Catalog Diabetes Create alert Advanced Search Help

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Currently Indexed Journals currently indexed in MEDLINE Customize ...

Languages English Spanish Customize ...

clear

Search results Items: 1 to 20 of 6402

Send to: Filters: Manage Filters

PubMed Search Builder

Filters activated: English. [Clear all](#) to show 8767 items.

ABC of wound healing

Price, Annie, (Of Welsh Wound Innovation (Organization)); Grey, Joseph E; Patel, Girish, (Of Cardiff University); Harding, K G (Keith G). Second edition. Hoboken, NJ : Wiley, 2022. NLM ID: 9918226079906676 [Book]

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Eating disorders : a comprehensive guide to medical care and complications

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Milani, Mark J; Inungu, Joseph N. First edition. Burlington, MA : Jones & Bartlett Learning, [2022] NLM ID: 101770023 [Book]

Handbook of research on assertiveness, clarity, and positivity in health literacy

Almeida, Cristina Vaz de, 1964-; Ramos, Susana, 1967-.

Search details

("diabetes mellitus"[MeSH Terms] OR ("diabetes"[All Fields] AND "mellitus"[All Fields]) OR "diabetes mellitus"[All Fields] OR "diabetes"[All Fields])

Search See more...

Recent Activity

Turn Off Clear

Diabetes AND (English[lang]) (6402) NLM Catalog

Diabetes (8767)

Diabetes AND ("has transcript variants" [Properties] AND alive[prop]... (2737) Gene

Diabetes AND (alive[prop]) (4095) Gene

RecName: Full=Steroidogenic factor 1; Short=SF-1; Short=SF-1; Short=hSF- Protein

See more...

Fig10. Hit page for search query “Diabetes” in resource NLM catalog with Limit option and refined results

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NLM Catalog Home Help

NLM Catalog Advanced Search Builder

Filters activated: English. [Clear all](#)

Use the builder below to create your search

Edit Clear

Builder

All Fields AND All Fields Show index list Show index list

Search or Add to history

History

Download history Clear history

Search	Add to builder	Query	Items found	Time
#19	Add	Search Diabetes Sort by: PubDate Filters: English	6402	10:18:16
#4	Add	Search Diabetes Sort by: PubDate	8767	10:18:11

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Fig11. Advanced search of Query “Diabetes” in NLM Catalog resource.

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Fig12. Search page with resource Nucleotide selected with query “Diabetes”

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Nucleotide Nucleotide Diabetes Create alert Advanced Search

Summary 20 per page Sort by Default order Send to: Filters: Manage Filters

See [Lepr \(DIABETES\) leptin receptor](#) in the Gene database diabetes reference sequences Transcript (6) Protein (6)

Items: 1 to 20 of 238594 << First < Prev Page 1 of 11930 Next > Last >>

1. [Mus musculus leptin receptor \(Lepr\) transcript variant 3 mRNA](#) Accession: NC\_001122899.2 GI: 1644264301 Protein PubMed Taxonomy GenBank FASTA Graphics

2. [Mus musculus leptin receptor \(Lepr\) transcript variant 1 mRNA](#) Accession: NM\_146146.3 GI: 1644264299 Protein PubMed Taxonomy GenBank FASTA Graphics

3. [Mus musculus leptin receptor \(Lepr\) transcript variant 2 mRNA](#) Accession: NM\_010704.2 GI: 171543893 Protein PubMed Taxonomy GenBank FASTA Graphics

4. [Mus musculus strain C57BL/6J chromosome 4, GRCm39](#) Accession: NC\_000070.7 GI: 1877089965 Assembly BioProject Protein PubMed Taxonomy GenBank FASTA Graphics

5. [PREDICTED: Mus musculus leptin receptor \(Lepr\) transcript variant X3 mRNA](#) Accession: XM\_036163752.1 GI: 1907154466 BioProject Protein Taxonomy GenBank FASTA Graphics

6. [PREDICTED: Mus musculus leptin receptor \(Lepr\) transcript variant X2 mRNA](#) Accession: XM\_036163751.1 GI: 1907154464 BioProject Protein Taxonomy GenBank FASTA Graphics

Filters: Manage Filters

Results by taxon Top Organisms [Tree] uncultured bacterium (86564) Homo sapiens (83465) synthetic construct (8216) Mus musculus (7045) Danio rerio (7914) All other taxa (44290) More...

Find related data Database: Select

Search details Diabetes[All Fields]

Recent activity Turn Off Clear

Diabetes (238594) Nucleotide

RecName: Full=Steroidogenic factor 1; Short=SF-1; Short=STF-1; Short=HSF- Protein

Lepr leptin receptor [Mus musculus] Gene

Diabetes AND (alive[prop]) (4095) Gene

Carcinoma (1387) Structure

Fig13. Hit page for search query “Diabetes” in Nucleotide resource

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Nucleotide Nucleotide Advanced

GenBank

**Mus musculus leptin receptor (Lepr), transcript variant 3, mRNA**

NCBI Reference Sequence: NM\_001122899.2

FASTA Graphics

Go to: ▾

LOCUS NM\_001122899 5040 bp mRNA linear ROD 14-SEP-2021

DEFINITION Mus musculus leptin receptor (Lepr), transcript variant 3, mRNA.

ACCESSION NM\_001122899

VERSION NM\_001122899.2

KEYWORDS RefSeq

SOURCE Mus musculus (house mouse)

ORGANISM Mus musculus

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchoptoglires; Glires; Rodentia; Myomorpha; Muridae; Muridae; Murinae; Mus; Mus.

REFERENCE 1 (bases 1 to 5040)

AUTHORS Cheng W, Nodka E, Maung JN, Pan W, Rupp AC, Rhodes CJ, Olson DP and Myers MG Jr.

TITLE NTS Prlh overcomes orexigenic stimuli and ameliorates dietary and genetic forms of obesity

JOURNAL Nat Commun 12 (1), 5175 (2021)

PUBMED 34462445

REMARK Publication Status: Online-Only

AUTHORS Gaborit B, Govers R, Altie A, Brunel JM, Morange P and Peiretti F.

TITLE The leptin receptor cleavage inhibits beta-secretase 1-mediated insulin receptor cleavage

JOURNAL J Biol Chem 297 (1), 100818 (2021)

PUBMED 34029592

REFERENCE 3 (bases 1 to 5040)

AUTHORS Yen Y, Chien MH, Wu PY and Hung SC.

TITLE PP2A in Lepr+ mesenchymal stem cells contributes to embryonic and postnatal endochondral ossification through Runx2 dephosphorylation

JOURNAL Commun Biol 4 (1), 658 (2021)

PUBMED 34079865

REMARK Gonzalez-Perez J, Lepr+ mesenchymal stem cells contributes to embryonic and postnatal endochondral ossification through Runx2 dephosphorylation.

Publication Status: Online-Only

REFERENCE 4 (bases 1 to 5040)

AUTHORS Gruber T, Pan C, Contreras RE, Wiedemann T, Morgan DA, Skowronski AA, Saffert SJ, De Bernardis Nurst C, Le Thuc O, Legutko B, Ruiz-Ojeda JJ, Fuentes-Fernandez M, Garcia-Villalon AL, Gonzalez-Hedstrom D, Huber M, Szigeti-Buck K, Muller TD, Ussar S, Pfluger P, Woods SC, Erturk A, LeDuc CA, Rahmouni K, Grando M, Horvath TL, Tschop MH and Garcia-Caceres C.

Articles about the Lepr gene

NTS Prlh overcomes orexigenic stimuli and ameliorates dietary and gen [Nat Commun, 2021]

PP2A in Lepr+ mesenchymal stem cells contributes to embryonic an [Commun Biol, 2021]

The aminosterol Claramine inhibits  $\beta$ -secretase 1-mediated insulin receptor c [J Biol Chem, 2021]

See all...

Change region shown

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Analyze this sequence

Run BLAST

Pick Primers

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Find in this Sequence

Show in Genome Data Viewer

Articles about the Lepr gene

Pathways for the Lepr gene

Signaling by Leptin

Mus musculus biological processes

Signaling by Leptin

See all...

Reference sequence information

RefSeq alternative splicing

See 6 reference mRNA sequence splice variants for the Lepr gene.

RefSeq protein product

See the reference protein sequence for leptin

Fig14. Result Page for Nucleotide resource on “Diabetes” [Mus musculus leptin receptor (Lepr), transcript variant 3, mRNA]

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Nucleotide Nucleotide Diabetes Create alert Advanced

Species

Animals (34,622)

Plants (4,898)

Fungi (485)

Protists (17)

Bacteria (94,314)

Archaea (298)

Viruses (779)

Customize ...

Molecule types

clear

genomic DNA/RNA (150,283)

mRNA (0)

rRNA (0)

Customize ...

Source databases

INSDC (GenBank) (145,324)

RefSeq (4,913)

Customize ...

Sequence Type

Nucleotide (149,536)

GSS (747)

Genetic compartments

Chloroplast (1)

Mitochondrion (4,576)

Plasmid (20)

Plastid (1)

Sequence length

Custom range...

Release date

Custom range...

Revision date

Custom range...

Clear all

Show additional filters

Summary ▾ 20 per page ▾ Sort by Default order ▾

Send to: ▾

See Lepr (DIABETES) leptin receptor in the Gene database

diabetes reference sequences Transcript (6) Protein (6)

Items: 1 to 20 of 150283

<< First < Prev Page 1 of 7515 Next > > Last >>

Filters: Manage Filters

Results by taxon

Top Organisms [Tree]

uncultured bacterium (86564)

Homo sapiens (24578)

Ancylostoma caninum (6723)

synthetic construct (3752)

Lupinus angustifolius (2997)

All other taxa (25669)

More...

Find related data

Database: Select

Find items

Search details

Diabetes[All Fields] AND biomol\_genomic[PROP]

Search

Recent activity

Turn Off Clear

Diabetes AND (biomol\_genomic[PROP]) (150283) Nucleotide

Diabetes (238594) Nucleotide

Diabetes AND (English[lang]) (6402) NLM Catalog

Diabetes AND ("has transcript variants" [Properties] AND alive[prop... (2737) Gene

Diabetes AND (alive[prop]) (4095) Gene

See more...

Fig15. Hit page for search query “Diabetes” in resource Nucleotide with Limit option and refined results

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Nucleotide Home Help

**Nucleotide Advanced Search Builder**

Filters activated: genomic DNA/RNA [Clear all](#)

Use the builder below to create your search

[Edit](#) [Clear](#)

**Builder**

All Fields AND All Fields [Show index list](#) [Show index list](#)

[Search](#) or [Add to history](#)

**History**

Search	Add to builder	Query	Items found	Time
#20	Add	Search <b>Diabetes</b> Filters: <b>genomic DNA/RNA</b>	150283	10:24:48
#16	Add	Search <b>Diabetes</b>	238594	10:23:45

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Fig16. Advanced search of Query “Diabetes” in Nucleotide resource.

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Protein Diabetes [Search](#)

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Fig17. Search page with resource Protein selected with query “Diabetes”

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Protein

Protein

Diabetes

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Advanced

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Search

Help

**Species**

Animals (95,360)  
Plants (33,171)  
Fungi (742)  
Protozoa (40)  
Bacteria (352,773)  
Archaea (874)  
Viruses (586)  
Customize ...

**Summary** ▾ 20 per page ▾ Sort by Default order ▾

See **Lepr (DIABETES)** leptin receptor in the Gene database  
diabetes reference sequences Transcript (6) Protein (6)

See the results of this search (69 items) in our new [Identical Protein Groups](#) database.

**Filters:** [Manage Filters](#)

**Results by taxon**

Top Organisms: [\[Tree\]](#)  
**E. coli** (27944)  
**Phaeocystis dorei** (50004)  
**Homo sapiens** (47578)  
**Lupinus angustifolius** (33092)  
**Ancylostoma caninum** (30198)  
All other taxa (273892)  
More...

**Items: 1 to 20 of 492708**

<< First < Prev Page **1** of 24636 Next > Last >>

**RecName: Full=Steroidogenic factor 1; Short=SF-1; Short=STF-1; Short=hSF-1; AltName:**  
1. **Full=Adrenal 4-binding protein; AltName: Full=Fushi tarazu factor homolog 1; AltName: Full=Nuclear receptor subfamily 5 group A member 1; AltName: Full=Steroid hormone receptor Ad4BP\_461 aa protein**  
Accession: Q13285.2 GI: 3121738  
PubMed Taxonomy  
[GenPept](#) [Identical Proteins](#) [FASTA](#) [Graphics](#)

**leptin receptor isoform 3 precursor [Mus musculus]**  
2. **894 aa protein**  
Accession: NP\_00116371.1 GI: 171543892  
BioProject Nucleotide PubMed Taxonomy  
[GenPept](#) [Identical Proteins](#) [FASTA](#) [Graphics](#)

**leptin receptor isoform 1 precursor [Mus musculus]**  
3. **666259.2 aa protein**  
Accession: NP\_666259.2 GI: 171543890  
BioProject Nucleotide PubMed Taxonomy  
[GenPept](#) [Identical Proteins](#) [FASTA](#) [Graphics](#)

**leptin receptor isoform 2 precursor [Mus musculus]**  
4. **892 aa protein**  
Accession: NP\_034834.1 GI: 8567370  
BioProject Nucleotide PubMed Taxonomy  
[GenPept](#) [Identical Proteins](#) [FASTA](#) [Graphics](#)

**leptin receptor isoform X3 [Mus musculus]**  
5. **894 aa protein**  
Accession: XP\_036019645.1 GI: 1907154467  
BioProject Nucleotide Taxonomy

**Find related data**

Database: [Select](#)

[Find items](#)

**Search details**

Diabetes[All Fields]

[Search](#) [See more...](#)

**Recent activity**

[Search](#) Diabetes (492708) [Turn Off](#) [Clear](#)

[Search](#) Lepr leptin receptor [Mus musculus] [Gene](#)

[Search](#) Diabetes AND (alive[prop]) (4095) [Gene](#)

[Search](#) RecName: Full=Steroidogenic factor 1; Short=SF-1; Short=STF-1; Short=hSF-1; Protein [Structure](#)

[Search](#) Carcinoma (1387) [Structure](#)

Fig18. Hit page for search query “Diabetes” in Protein resource

**Fig19. Result Page for Protein resource on “Diabetes” [RecName: Full=Steroidogenic factor 1; Short=SF-1; Short=STF-1; Short=hSF-1; AltName: Full=Adrenal 4-binding protein; AltName: Full=Fushi tarazu factor homolog 1; AltName: Full=Nuclear receptor subfamily 5 group A member 1; AltName: Full=Steroid hormone receptor Ad4BP]**

NCBI Resources How To

Nucleotide Nucleotide Diabetes Create alert Advanced

Species Summary 20 per page Sort by Default order

See [Lepr \(DIABETES\) leptin receptor in the Gene database](#)  
[diabetes reference sequences](#) [Transcript \(6\)](#) [Protein \(6\)](#)

Items: 1 to 20 of 150283

Filters activated: genomic DNA/RNA. [Clear all](#)

[Mus musculus strain C57BL/6J chromosome 4, GRCm39](#)

1. [156,860,686 bp linear DNA](#)  
Accession: NC\_000070.7 GI: 1877089965  
Assembly BioProject Protein PubMed Taxonomy  
GenBank FASTA Graphics

[Homo sapiens ras associated with diabetes \(rad\) gene, complete cds](#)

2. [534 bp linear DNA](#)  
Accession: AH007387.2 GI: 1049010672  
Protein PubMed Taxonomy  
GenBank FASTA Graphics

[JP 2016008193-A/1: A therapeutic agent or preventing agent for diabetes, a non-human animal model of diabetes, a screening method for a therapeutic agent or preventing agent for diabetes and a kit therefore](#)

3. [2,287 bp linear DNA](#)  
Accession: HZ469277.1 GI: 1023281208  
Taxonomy  
GenBank FASTA Graphics

[Human clone 61.1 diabetes mellitus type I autoantigen \(ICAp69\) gene, partial cds](#)

4. [592 bp linear DNA](#)  
Accession: U26593.1 GI: 1674389  
Protein PubMed Taxonomy  
GenBank FASTA Graphics

[JP 2013524829-A/2: METHOD FOR DIAGNOSING RISK OF TYPE 1 DIABETES AND FOR PREVENTING ONSET OF TYPE 1 DIABETES](#)

5. [58 bp linear DNA](#)  
Accession: HW306932.1 GI: 554615693  
Taxonomy  
GenBank FASTA Graphics

[JP 2013524829-A/1: METHOD FOR DIAGNOSING RISK OF TYPE 1 DIABETES AND FOR PREVENTING ONSET OF TYPE 1 DIABETES](#)

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Filters: [Manage Filters](#)

Results by taxon

Top Organisms [Tree]  
uncultured bacterium (86564)  
Homo sapiens (24579)  
Acanthostoma caninum (6723)  
synthetic construct (3752)  
Lupinus angustifolius (2997)  
All other taxa (25669)

More...

Find related data Database: [Select](#)

Find items

Search details Diabetes[All Fields] AND biomol\_genomic[PROP]

Search

See more...

Recent activity

Turn Off Clear

Q Diabetes AND (biomol\_genomic[PROP]) Nucleotide  
(150283)

Q Diabetes (238594) Nucleotide

Q Diabetes AND (English[lang]) (6402) NLM Catalog

Q Diabetes AND ("has transcript variants" [Properties] AND alive[pro...]) (2737) Gene

Q Diabetes AND (alive[prop]) (4095) Gene

See more...

Fig20. Hit page for search query “Diabetes” in resource Protein with Limit option and refined results

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Protein Home Help

Protein Advanced Search Builder

Filters activated: PDB. [Clear all](#)

Use the builder below to create your search [Edit](#) [Clear](#)

Builder  
 All Fields [Show index list](#)  
 AND  All Fields [Show index list](#)

Search or [Add to history](#)

History  

Search	Add to builder	Query	Items found	Time
#21	Add	Search Diabetes Filters: PDB	3727	10:30:27
#9	Add	Search Diabetes	492708	10:30:22

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Fig21. Advanced search of Query “Diabetes” in Protein resource.

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Structure Diabetes Search

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## Fig22. Search page with resource Structure selected with query “Diabetes”

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Structure Structure Diabetes Create alert Advanced Search Help

Summary 20 per page Sort by Default order

Send to: Filter your results: All (1520) NMR (85) X-ray (1367) Manage Filters

Refine your results - what's this? Protein Domain Families Families (1,238) Superfamilies (1,390) Complexes Protein-Protein (912) Protein-DNA (12) Protein-Chemical (1,272) Lipids PubMed (1,445) PMC (602) Taxonomy (1,512)

Find related data Database: Select Find items

Search details Diabetes[All Fields]

Search See more...

Recent activity Turn off Clear

Search Diabetes (1520) Structure

RecName: Full=Steroidogenic factor 1; Short=SF-

1. Diabetes mellitus due to a frustrated Schellman motif in HNF-1a[TRANSCRIPTION REGULATOR] Taxonomy: synthetic construct Proteins: 2 modified: 2019-07-26 MMDB ID: 44998 PDB ID: 2GYR View in Cn3D PubMed Proteins

2. Crystal Structure of Dimerization Domain (1-33) of HNF-1alpha[TRANSCRIPTION] Taxonomy: synthetic construct Proteins: 2 modified: 2018-10-15 MMDB ID: 17011 PDB ID: 1JB6 View in Cn3D PubMed Proteins Conserved Domains

3. Crystal Structure Of Hepatocyte Nuclear Factor 4alpha In Complex With Dna: Diabetes Gene Product[TranscriptionDNA] Taxonomy: Homo sapiens Proteins: 2 Nucleic acids: 2 (DNA) Chemicals: 4 modified: 2017-11-01 MMDB ID: 67162 PDB ID: 3CBB View in Cn3D Similar Structures PubMed Proteins Conserved Domains PubChem Compound

4. PARADOXICAL STRUCTURE AND FUNCTION IN A MUTANT HUMAN INSULIN ASSOCIATED WITH DIABETES MELLITUS[HORMONE] Taxonomy: Homo sapiens Proteins: 2 modified: 2018-05-29 MMDB ID: 1193 PDB ID: 1HQ9 View in Cn3D PubMed Proteins Conserved Domains

5. Non-standard Design Of Unstable Insulin Analogues With Enhanced Activity[HormoneGROWTH FACTOR] Taxonomy: synthetic construct Proteins: 6 Chemicals: 3 modified: 2013-02-12 MMDB ID: 16677 PDB ID: 1JCA View in Cn3D PubMed Proteins Conserved Domains PubChem Compound

6. Crystal Structure Of An Unstable Insulin Analog With Native Activity[HormoneGROWTH FACTOR] Taxonomy: synthetic construct Proteins: 12 Chemicals: 6 modified: 2012-09-18 MMDB ID: 16493 PDB ID: 1J73

## Fig23. Hit page for search query “Diabetes” in Structure resource

2GYP: Diabetes mellitus due to a frustrated Schellman motif in HNF-1a

Citation: [\[2\]](#)

Diabetes mellitus due to misfolding of a beta-cell transcription factor: stereospecific frustration of a Schellman motif in HNF-1alpha  
Narayana N, Phillips NB, Hua QX, Jia W, Weiss MA  
*J Mol Biol* (2006) 362 p.414-29

[» All references \(4\)](#)

Abstract

Maturity-onset diabetes of the young (MODY3), a monogenic form of type II diabetes mellitus, results most commonly from mutations in hepatocyte nuclear factor 1alpha (HNF-1alpha). Diabetes-associated mutation G20R perturbs the dimerization domain of HNF-1alpha, an intertwined four-helix bundle. In the wild-type structure G20 participates in a Schellman motif to cap an alpha-helix;...  
[read more](#)

PDB ID: 2GYP [Download](#)   
MMDB ID: 44998   
PDB Deposition Date: 2006/5/9   
Updated in MMDB: 2007/10   
Experimental Method: x-ray diffraction   
Resolution: 1.4 Å   
Source Organism: synthetic con...   
Similar Structures: VAST+

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[Default Biological Unit](#) [All Biological Units \(3\)](#) [Asymmetric Unit](#) [\[?\]](#)

Biological Unit for 2GYP: dimeric; determined by author and by software (PISA,PQS)

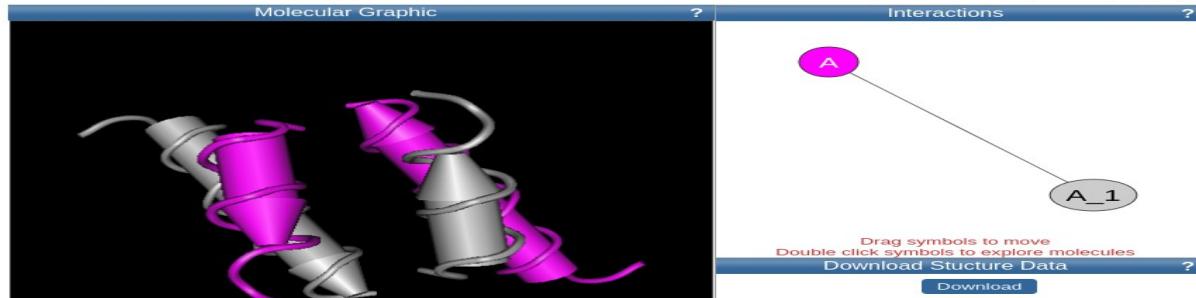


Fig24. Result Page for Structure resource on Diabetes [Diabetes mellitus due to a frustrated Schellman motif in HNF-1a]

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Structure  Structure [Search](#)

Search results  
Items: 1 to 20 of 752

Summary 20 per page Sort by Default order [Send to:](#) [Filter your results:](#)

1. [Crystal Structure Of Hepatocyte Nuclear Factor 4alpha In Complex With Dna: Diabetes Gene Product\[TranscriptionDNA\]](#)  
Taxonomy: Homo sapiens  
Proteins: 2 Nucleic acids: 2 (DNA) Chemicals: 4 modified: 2017-11-01  
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2. [Non-standard Design Of Unstable Insulin Analogues With Enhanced Activity\[HormoneGROWTH FACTOR\]](#)  
Taxonomy: synthetic construct  
Proteins: 6 Chemicals: 3 modified: 2013-02-12  
MMDB ID: 16677 PDB ID: 1JCA  
[View in iCn3D](#) [PubMed](#) [Proteins](#) [Conserved Domains](#) [PubChem Compound](#)

3. [Crystal Structure Of An Unstable Insulin Analog With Native Activity\[HormoneGROWTH FACTOR\]](#)  
Taxonomy: synthetic construct  
Proteins: 12 Chemicals: 6 modified: 2012-09-18  
MMDB ID: 16493 PDB ID: 1J73  
[View in iCn3D](#) [PubMed](#) [Proteins](#) [Conserved Domains](#) [PubChem Compound](#)

4. [Development Of A Therapeutic Monoclonal Antibody Targeting Secreted Ap2 To Treat Type 2 Diabetes\[Immune System\]](#)  
Taxonomy: Mus musculus  
Proteins: 3 Chemicals: 1 modified: 2017-08-04  
MMDB ID: 135477 PDB ID: 5D8J  
[View in iCn3D](#) [Similar Structures](#) [PubMed](#) [Proteins](#) [Conserved Domains](#) [PubChem Compound](#)

5. [Acyl Ureas As Human Liver Glycogen Phosphorylase Inhibitors For The Treatment Of Type 2 Diabetes\[Transferase, EC: 2.4.1.1\]](#)  
Taxonomy: Oryctolagus cuniculus  
Proteins: 2 Chemicals: 4 modified: 2012-09-11  
MMDB ID: 36562 PDB ID: 1WUT  
[View in iCn3D](#) [Similar Structures](#) [PubMed](#) [Proteins](#) [Conserved Domains](#) [PubChem Compound](#)

6. [Crystal structure of the Class I MHC Molecule H-2Kwm7 with a Single Self Peptide IQQSIERL\[IMMUNE SYSTEM\]](#)  
Taxonomy: Mus musculus, synthetic construct  
Proteins: 3 Chemicals: 1 modified: 2018-11-07  
MMDB ID: 79199 PDB ID: 3F0M  
[View in iCn3D](#) [Similar Structures](#) [PubMed](#) [Proteins](#) [Conserved Domains](#) [PubChem Compound](#)

[Filter your results:](#) All (752) NMR (0) X-ray (711) [Manage Filters](#)

[Refine your results](#) • What's this?  
Protein Domain Families Families (621) Superfamilies (680)  
Complexes Protein-Protein (752) Protein-DNA (7) Protein-Chemical (752)  
Literature PubMed (696) PMC (286)  
Taxonomy (749)

[Find related data](#)  
Database: [Select](#) [Find items](#)

[Search details](#)  
Diabetes[All Fields] AND complex\_ligand[filter] AND complex\_protein[filter] [Search](#) [See more...](#)

[Recent activity](#) [Turn Off](#) [Clear](#)  
Q Diabetes AND (complex\_ligand[filter] AND (complex\_protein[filter])) (752) [Structure](#)  
Q Diabetes AND (complex\_ligand[filter]) (1272) [Structure](#)  
Q Diabetes (1520) [Structure](#)

Fig25. Hit page for search query “Diabetes” in resource Structure with Limit option and refined results

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Structure Home Help

Structure Advanced Search Builder

Use the builder below to create your search

Builder

All Fields AND All Fields

Show index list Show index list

Search or Add to history

History

Search	Add to builder	Query	Items found	Time
#23	Add	Search Diabetes AND (complex_ligand[flit]) AND (complex_protein[flit])	752	10:35:54
#22	Add	Search Diabetes AND (complex_ligand[flit])	1272	10:35:48
#7	Add	Search Diabetes	1520	10:35:32
#8	Add	Search Carcinoma	1387	09:33:36

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**Fig26. Advanced search of Query “Diabetes” in Structure resource.**

## Results:

Below are the NCBI resources used to retrieve the results for “Diabetes” query.

Sr No	Resource	Results
1	Gene	4095
2	NLM Catalog	8767
3	Nucleotide	238594
4	Protein	492708
5	Structure	1520

## Conclusion:

NCBI is a great website with plenty of resources to find and study data. The filters such as advanced and limit refines the results for better understanding and to gather relevant information. The resources of NCBI Database are useful and they are crucial for the effective searching of information and to gain knowledge which makes it easy to access huge amounts of data swiftly and without bloat.

## References:

1. <https://www.ncbi.nlm.nih.gov/gene/?term=Diabetes>
2. <https://www.ncbi.nlm.nih.gov/gene/advanced>
3. <https://www.ncbi.nlm.nih.gov/gene/16847>

**2. NLM Catalog**

1. <https://www.ncbi.nlm.nih.gov/nlmcatalog/?term=Diabetes>
2. <https://www.ncbi.nlm.nih.gov/nlmcatalog/advanced>
3. <https://www.ncbi.nlm.nih.gov/nlmcatalog/466125>

**3. Nucleotide**

1. <https://www.ncbi.nlm.nih.gov/nuccore/?term=Diabetes>
2. <https://www.ncbi.nlm.nih.gov/nuccore/advanced>
3. [https://www.ncbi.nlm.nih.gov/nuccore/NM\\_001122899.2](https://www.ncbi.nlm.nih.gov/nuccore/NM_001122899.2)

**4. Protein**

1. <https://www.ncbi.nlm.nih.gov/protein/?term=Diabetes>
2. <https://www.ncbi.nlm.nih.gov/protein/advanced>
3. <https://www.ncbi.nlm.nih.gov/protein/Q13285.2>

**5. Structure**

1. <https://www.ncbi.nlm.nih.gov/structure/?term=Diabetes>
2. <https://www.ncbi.nlm.nih.gov/structure/advanced>
3. <https://www.ncbi.nlm.nih.gov/Structure/pdb/2GYP>