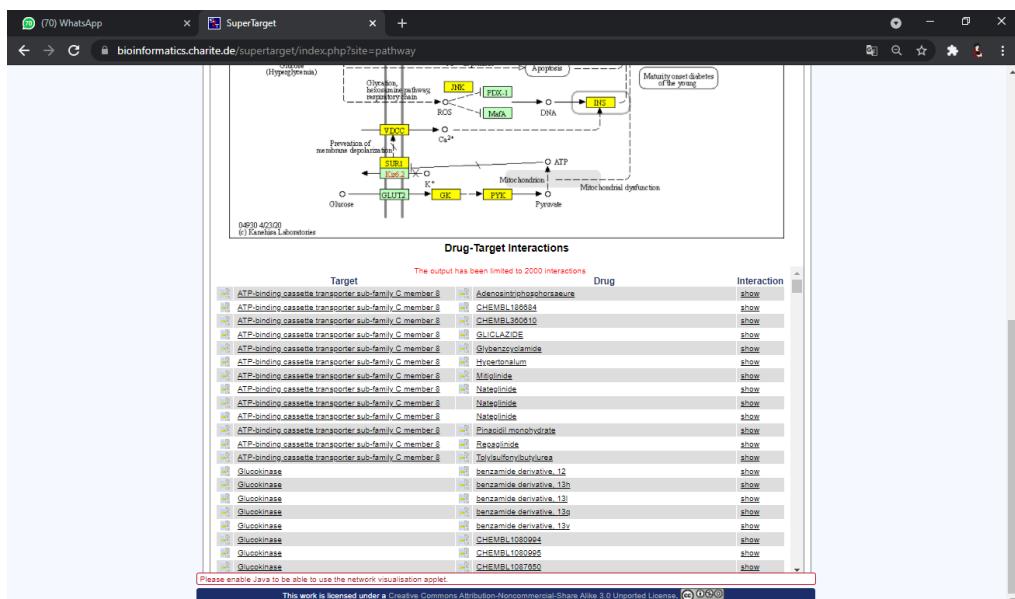
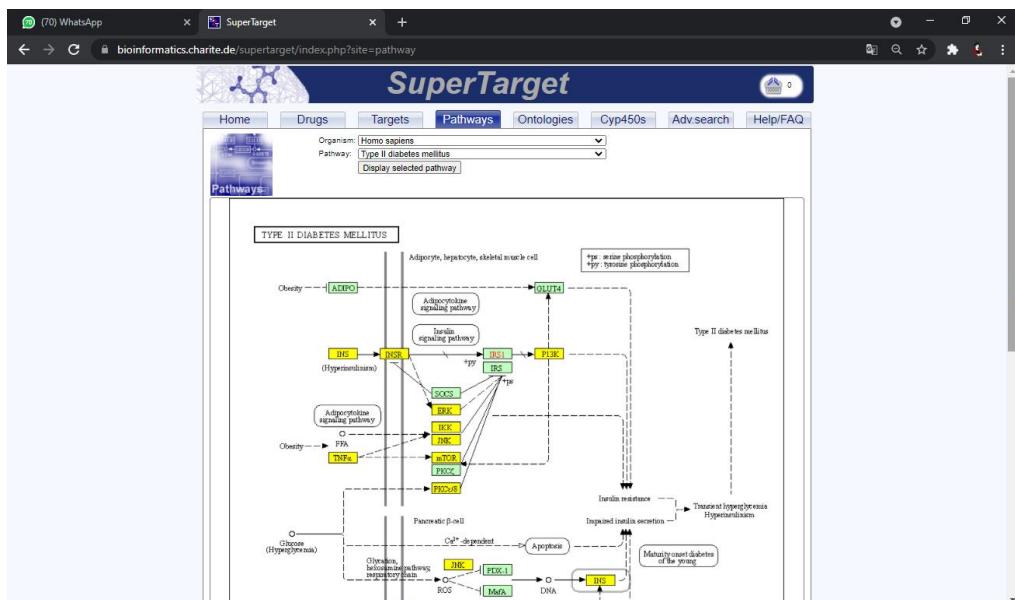


LAMPIRAN

Lampiran 1 Identifikasi protein yang terlibat dalam patofisiologi DM



Lampiran 2 Validasi nama gen

Screenshot of the UniProtKB 2021_03 results page for "insulin receptor". The search bar shows "insulin receptor". The results table displays 25 entries out of 30,272, filtered by quote terms: "insulin receptor".

Entry	Entry name	Protein names	Gene names	Organism	Length
P08069	IGF1R_HUMAN	Insulin-like growth factor 1 receptor	IGF1R	Homo sapiens (Human)	1,367
P24062	IGF1R_RAT	Insulin-like growth factor 1 receptor	Igf1r	Rattus norvegicus (Rat)	1,370
Q60751	IGF1R_MOUSE	Insulin-like growth factor 1 receptor	Igf1r	Mus musculus (Mouse)	1,373
Q05688	IGF1R_BOVIN	Insulin-like growth factor 1 receptor	IGF1R	Bos taurus (Bovine)	640
P09208	INSR_DROME	Insulin-like receptor	InR dnr, Dir-a, Inr-a, CG18402	Drosophila melanogaster (Fruit fly)	2,144
Q9WTL4	INSR_MOUSE	Insulin receptor-related protein	Insr Irr	Mus musculus (Mouse)	1,300
P14616	INSR_HUMAN	Insulin receptor-related protein	INSRR IRR	Homo sapiens (Human)	1,297
P06213	INSR_HUMAN	Insulin receptor	INSR	Homo sapiens (Human)	1,382
P15208	INSR_MOUSE	Insulin receptor	Insr	Mus musculus (Mouse)	1,372

Reseptor insulin

Screenshot of the UniProtKB 2021_03 results page for "abcc8 in UniProtKB". The search bar shows "abcc8 in UniProtKB". The results table displays 25 entries out of 1,055, filtered by quote terms: "ATP-binding cassette transporter sub-family C member 8".

Entry	Entry name	Protein names	Gene names	Organism	Length
Q09428	ABCC8_HUMAN	ATP-binding cassette sub-family C m...	ABCC8 HRINS, SUR, SUR1	Homo sapiens (Human)	1,581
Q09429	ABCC8_RAT	ATP-binding cassette sub-family C m...	Abcc8 Sur, Sur1	Rattus norvegicus (Rat)	1,582
B2RUS7	B2RUS7_MOUSE	ATP-binding cassette, sub-family C ...	Abcc8	Mus musculus (Mouse)	1,588
Q6PGE2	Q6PGE2_MOUSE	Abcc8 protein	Abcc8	Mus musculus (Mouse)	909
A0A2R8Y4V0	A0A2R8Y4V0_HUMAN	ATP-binding cassette sub-family C m...	ABCC8	Homo sapiens (Human)	1,603
A0A1B0GT25	A0A1B0GT25_MOUSE	ATP-binding cassette, sub-family C ...	Abcc8	Mus musculus (Mouse)	910
Q8BIU4	Q8BIU4_MOUSE	ABC transmembrane type-1 domain-con...	Abcc8	Mus musculus (Mouse)	493
Q9JL44	Q9JL44_MOUSE	ATP-binding cassette protein	Abcc8	Mus musculus (Mouse)	228
Q09427	ABCC8_CRICR	ATP-binding cassette sub-family C m...	ABCC8 SUR	Cricetus cricetus (Black-bellied hamster)	1,582
A0A1B0GT49	A0A1B0GT49_MOUSE	ATP-binding cassette, sub-family C ...	Abcc8	Mus musculus (Mouse)	100
O8BNE2	O8BNE2_MOUSE	Uncharacterized protein	Abcc8	Mus musculus (Mouse)	1.087

ATP-binding cassette sub-family C member 8

UniProtKB 2021_03 results

Filter by:

- Reviewed (547)
- Unreviewed (61,958)
- Popular organisms
 - Human (98)
 - Mouse (73)
 - Rat (53)
 - Bovine (21)
 - Zebrafish (18)
 - Other organisms
- Search terms
 - Filter "glucokinase" as: disease (1)
 - gene ontology (31,897)

Entry	Entry name	Protein names	Gene names	Organism	Length
Q07071	GCKR_RAT	Glucokinase regulatory protein	Gckr	Rattus norvegicus (Rat)	627
Q14397	GCKR_HUMAN	Glucokinase regulatory protein	GCKR	Homo sapiens (Human)	625
Q91X44	GCKR_MOUSE	Glucokinase regulatory protein	Gckr	Mus musculus (Mouse)	587
A5U654	PPGK_MYCTA	Polyphosphate glucokinase	ppgK MRA_2730	Mycobacterium tuberculosis (strain ATCC 25177 / H37Ra)	265
Q58999	K6PF_METJA	Bifunctional ADP-specific glucokina...	pfkC glkA, MJ1604	Methanocaldococcus jannaschii (strain ATCC 43067 / DSM 2661 / JAL-1 / JCM 10045 / NBRC 100440) (Methanococcus jannaschii)	462
P35557	HXK4_HUMAN	Hexokinase-4	GCK	Homo sapiens (Human)	465
P17712	HXK4_RAT	Hexokinase-4	Gck	Rattus norvegicus (Rat)	465
P52792	HXK4_MOUSE	Hexokinase-4	Gck Gk	Mus musculus (Mouse)	465
Q7M537	GLKA_THELN	ADP-dependent glucose/glucosamine k...	glkA OCC_09701	Thermococcus littoralis (strain ATCC 51850 / DSM 5473 / JCM 8560 / NS-C)	467
P17709	HXXG_YEAST	Glucokinase-1	GLK1_HOR3, YCL040W, YCL312c,	Saccharomyces cerevisiae (strain ATCC 204508 / S288c) (Baker's yeast)	500

Glukokinase

UniProtKB 2021_03 results

Filter by:

- Reviewed (237)
- Unreviewed (3,941)
- Popular organisms
 - Human (109)
 - Mouse (87)
 - Rat (41)
 - Bovine (38)
 - Zebrafish (16)
 - Other organisms
- Search terms
 - Filter "pparg" as: disease (1)
 - gene name (972)

Entry	Entry name	Protein names	Gene names	Organism	Length
P37231	PPARG_HUMAN	Peroxisome proliferator-activated r...	PPARG NR1C3	Homo sapiens (Human)	505
P37238	PPARG_MOUSE	Peroxisome proliferator-activated r...	Pparg Nr1c3	Mus musculus (Mouse)	505
088275	PPARG_RAT	Peroxisome proliferator-activated r...	Pparg Nr1c3	Rattus norvegicus (Rat)	505
018971	PPARG_BOVIN	Peroxisome proliferator-activated r...	PPARG NR1C3	Bos taurus (Bovine)	505
Q4U3Q4	PPARG_CANLF	Peroxisome proliferator-activated r...	PPARG NR1C3	Canis lupus familiaris (Dog) (Canis familiaris)	505
018924	PPARG_MACMU	Peroxisome proliferator-activated r...	PPARG NR1C3	Macaca mulatta (Rhesus macaque)	505
062807	PPARG_PIG	Peroxisome proliferator-activated r...	PPARG NR1C3	Sus scrofa (Pig)	504
Q6GU14	Q6GU14_MOUSE	Peroxisome proliferator-activated r...	Pparg PPARG	Mus musculus (Mouse)	505
Q96EK7	F120B_HUMAN	Constitutive coactivator of peroxis...	FAM120B CCPG, KIAA1838	Homo sapiens (Human)	910
Q6R163	F120B_MOUSE	Constitutive coactivator of peroxis...	Fam120b CCPG, KIAA1838	Mus musculus (Mouse)	786
P57707	PPARD_C1C2	Peroxisome proliferator-	PPARD NR1C2	Oreasteria aestivalis (Chinese hammerhead)	475

Peroxisome proliferator-activated receptor gamma

Screenshot of the UniProtKB 2021_03 results page for "dipeptidyl peptidase 4".

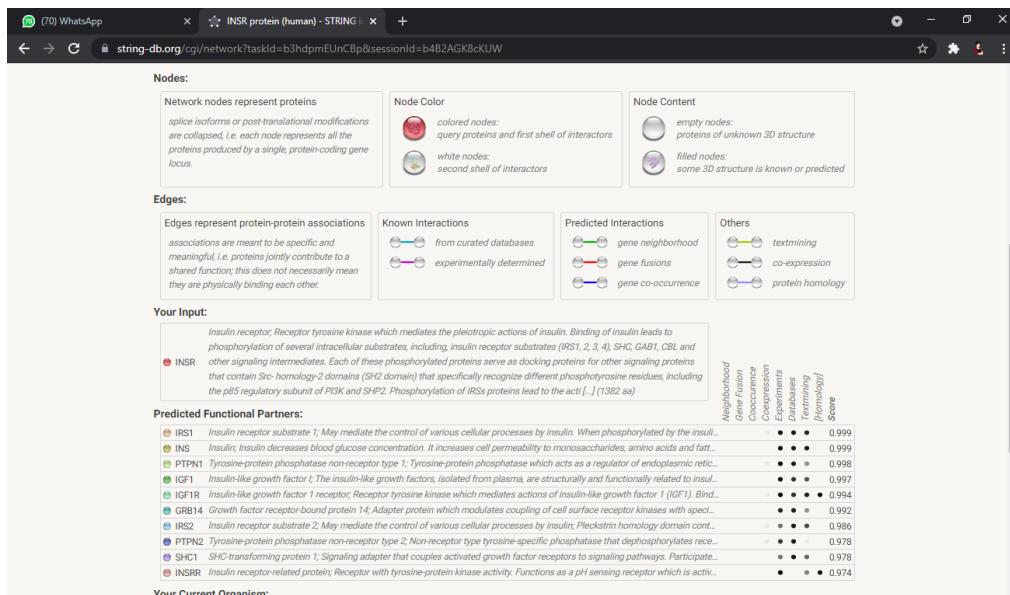
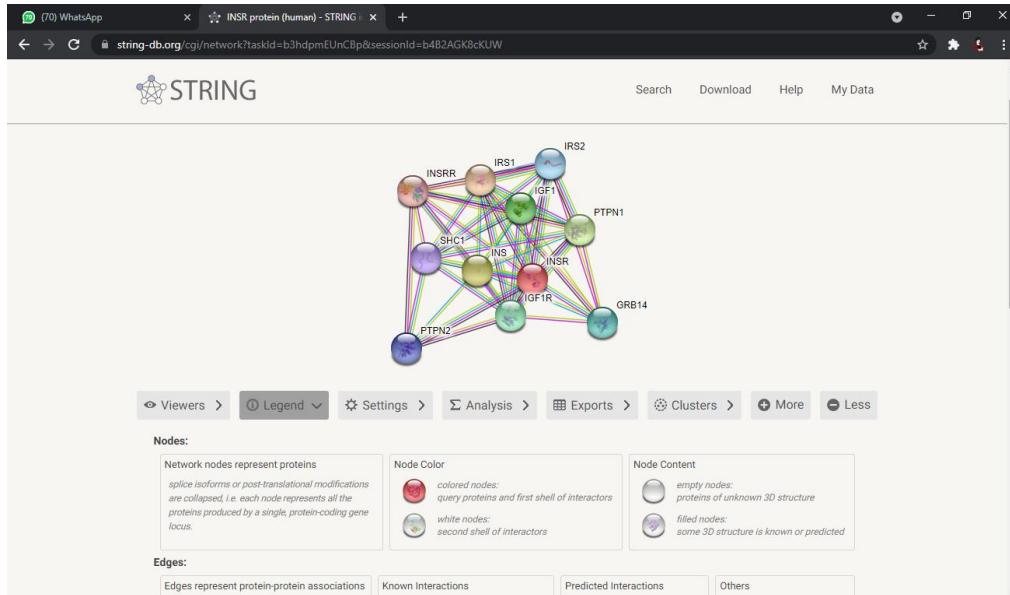
The search bar shows "dipeptidyl peptidase 4".

The results table has columns: Entry, Entry name, Protein names, Gene names, Organism, and Length.

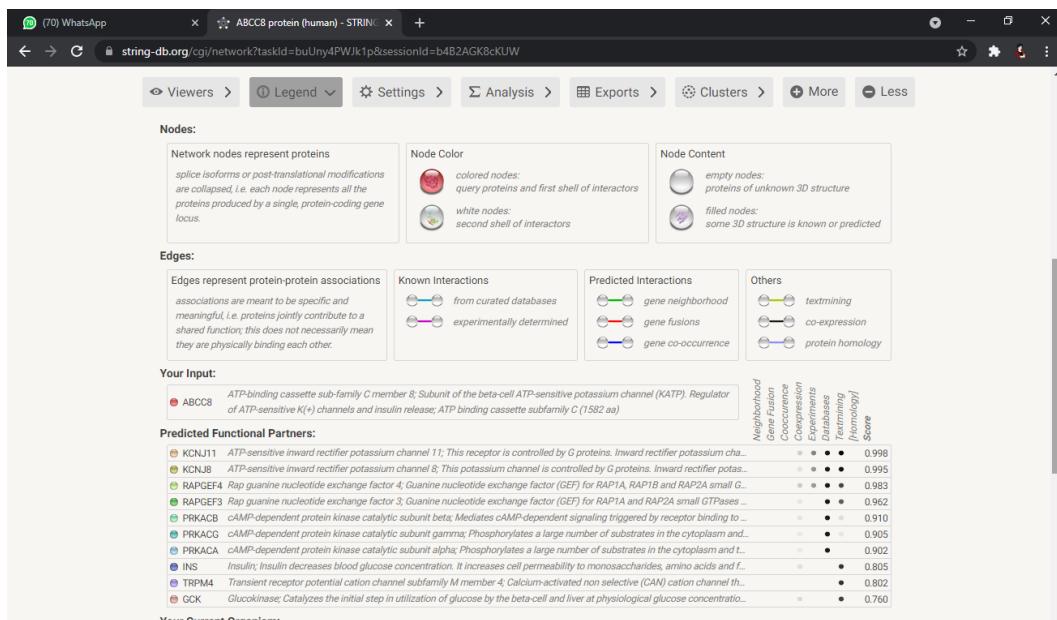
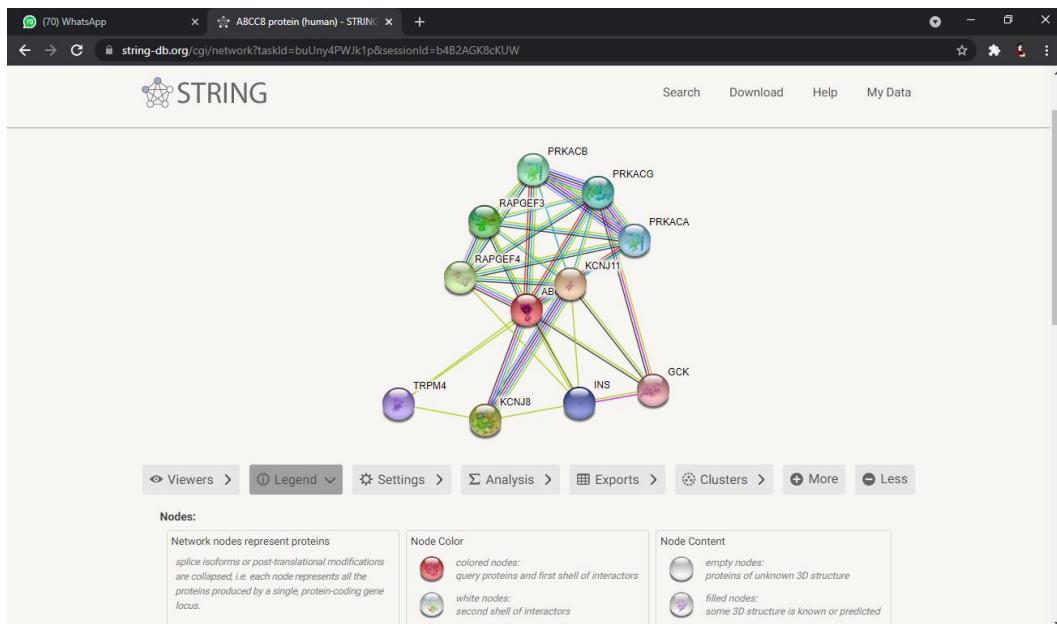
	Entry	Entry name	Protein names	Gene names	Organism	Length
<input type="checkbox"/>	P14740	DPP4_RAT	Dipeptidyl peptidase 4	Dpp4 Cd26	Rattus norvegicus (Rat)	767
<input type="checkbox"/>	P27487	DPP4_HUMAN	Dipeptidyl peptidase 4	DPP4 ADCP2, CD26	Homo sapiens (Human)	766
<input type="checkbox"/>	P28843	DPP4_MOUSE	Dipeptidyl peptidase 4	Dpp4 Cd26	Mus musculus (Mouse)	760
<input type="checkbox"/>	P22411	DPP4_PIG	Dipeptidyl peptidase 4	DPP4 CD26	Sus scrofa (Pig)	766
<input type="checkbox"/>	P81425	DPP4_BOVIN	Dipeptidyl peptidase 4	DPP4 CD26	Bos taurus (Bovine)	765
<input type="checkbox"/>	Q9N2I7	DPP4_FELCA	Dipeptidyl peptidase 4	DPP4 CD26	Felis catus (Cat) (Felis silvestris catus)	765
<input type="checkbox"/>	P53634	CATC_HUMAN	Dipeptidyl peptidase 1	CTSC CPPI	Homo sapiens (Human)	463
<input type="checkbox"/>	P80067	CATC_RAT	Dipeptidyl peptidase 1	Ctsc	Rattus norvegicus (Rat)	462
<input type="checkbox"/>	P97821	CATC_MOUSE	Dipeptidyl peptidase 1	Ctsc	Mus musculus (Mouse)	462

Dipeptidyl peptidase 4

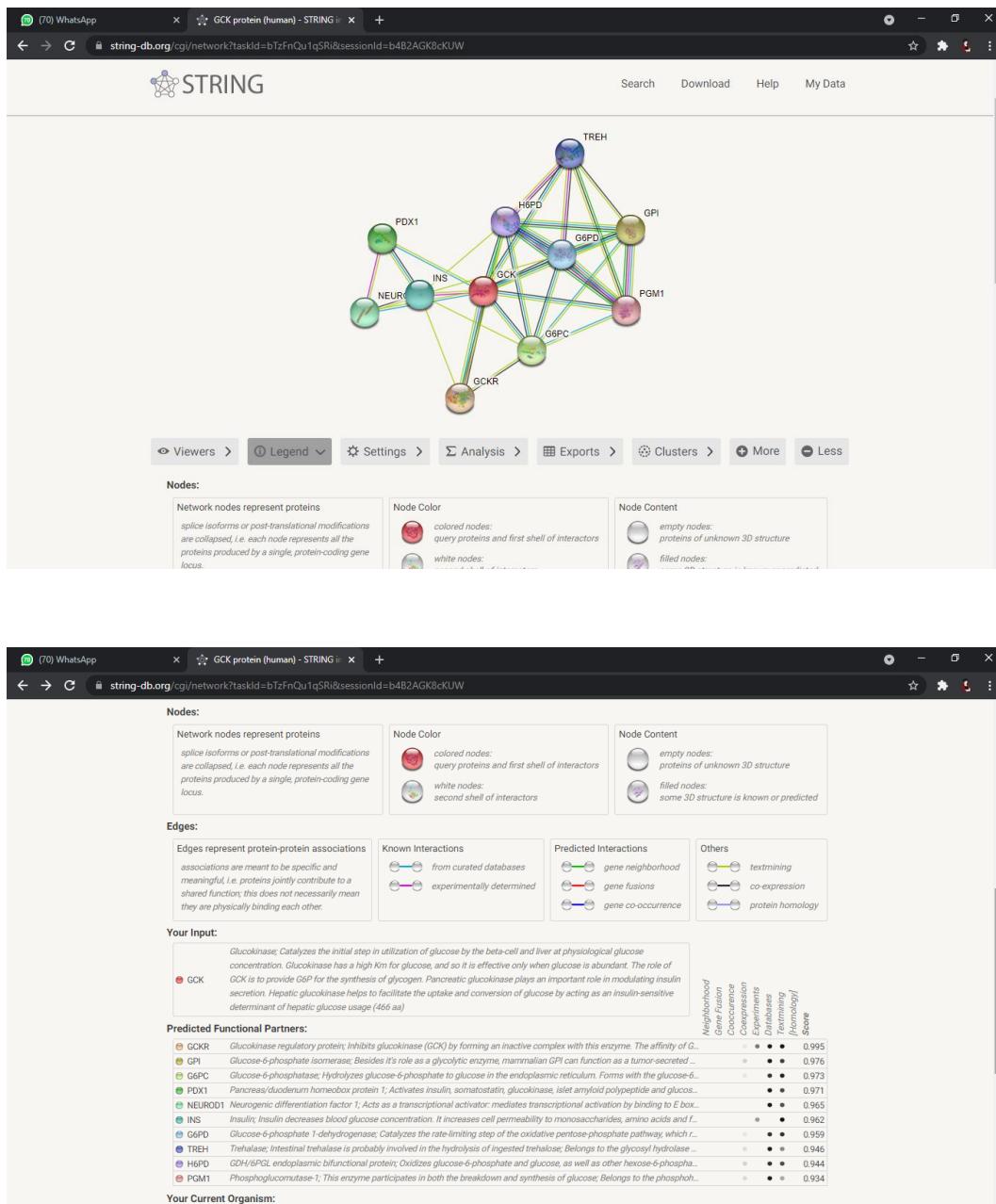
Lampiran 3 Pencarian interaksi protein-protein



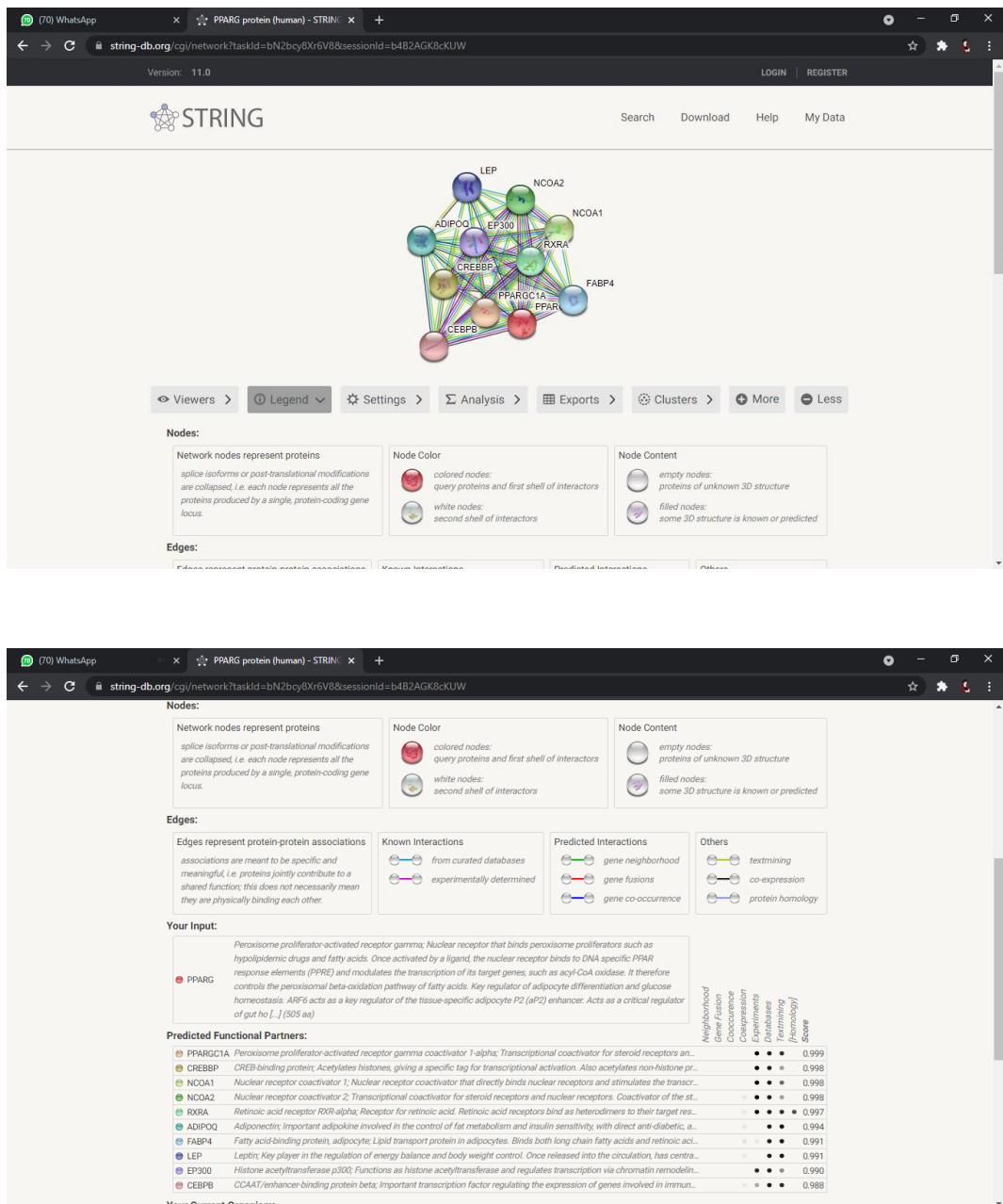
Insulin reseptör



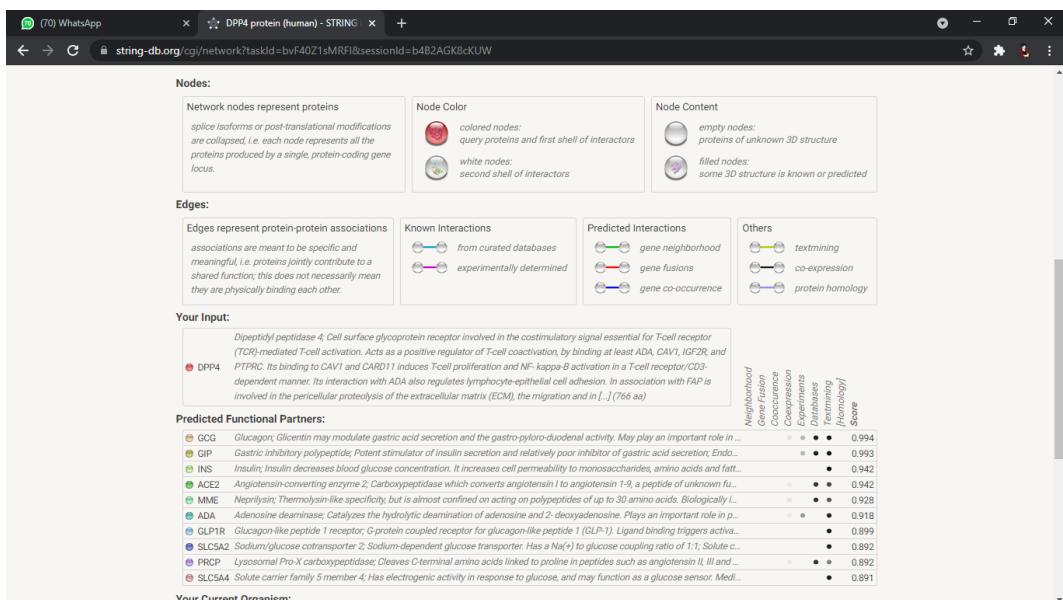
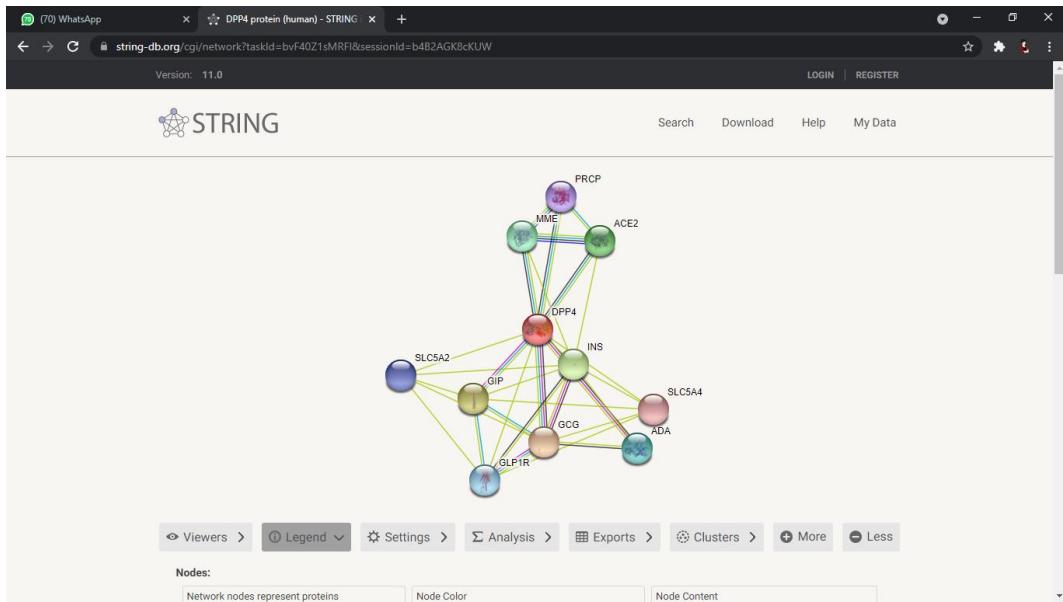
ATP-binding cassette sub-family C member 8



Glukokinase



Peroxisome proliferator-activated receptor gamma



Dipeptidyl peptidase 4

Lampiran 4 Data senyawa kandungan kimia dari KNAPSAcK

input type = all , input word = *andrographis paniculata*

Number of matched data: 46

C ID	CAS ID	Metabolite	Molecular formula	Mw	Organism or InChIKey etc.
C00000615	501-16-6	Caffeic acid	C9H8O4	180.04225874	<i>Andrographis paniculata</i>
C00001016	5128-44-9	Apigenin, 7,4'-dimethyl ether	C17H14O5	298.08412356	<i>Andrographis paniculata</i>
C00002274	327-97-9	3-O-Caffeoylquinic acid	C16H18O9	354.09508217	<i>Andrographis paniculata</i>
C00002743	1135-24-6	Ferulic acid	C10H10O4	194.05790881	<i>Andrographis paniculata</i>
C00003672	83-46-5	beta-Sitosterol	C29H50O	414.38616622	<i>Andrographis paniculata</i>
C00003810	3570-62-5	7-O-Methylwogonin	C17H14O5	298.08412356	<i>Andrographis paniculata</i>
C00003952	113963-50-1	5,4'-Dihydroxy-7,8,2',3'-tetramethoxyflavone	C19H18O8	374.10016755	<i>Andrographis paniculata</i>
C00004129	80366-14-9	Wogonin 5-glucoside	C22H22O10	446.12129692	<i>Andrographis paniculata</i>
C00004132	113963-39-6	5-Hydroxy-7,8-dimethoxyflavone 5-glucoside	C23H24O10	460.13634699	<i>Andrographis paniculata</i>
C00004260	113963-41-0	5-Hydroxy-7,8,2'-trimethoxyflavone 5-glucoside	C24H26O11	490.14751167	<i>Andrographis paniculata</i>
C00004449	113963-38-5	5,2',3'-Trihydroxy-7,8-dimethoxyflavone 3'-glucoside	C23H24O12	492.12677623	<i>Andrographis paniculata</i>
C00004450	113963-40-9	5-Hydroxy-7,8,2',3'-tetramethoxyflavone 5-glucoside	C25H28O12	520.15807636	<i>Andrographis paniculata</i>
C00004477	113963-42-1	5,4'-Dihydroxy-7,8,2',3'-tetramethoxyflavone 5-glucoside	C25H28O13	536.15299098	<i>Andrographis paniculata</i>
C00004610	86928-02-6	5-Hydroxy-3,7,8,2'-tetramethoxyflavone	C19H18O7	358.10525293	<i>Andrographis paniculata</i>
C00008154	113961-49-0	5-Hydroxy-7,8-dimethoxyflavonone	C17H16O5	300.08977562	<i>Andrographis paniculata</i>
C00008449	11363-37-4	Andrographin A	C23H26O10	462.15259705	<i>Andrographis paniculata</i>
C00011907	21764-32-9	Paniculide A	C15H20O4	264.13615913	<i>Andrographis paniculata</i>
C00011908	21764-33-0	Paniculide B	C15H20O5	280.13107375	<i>Andrographis paniculata</i>
C00011909	21764-34-1	Paniculide C	C15H18O5	278.11542369	<i>Andrographis paniculata</i>
C00013310	566918-50-1	5-Hydroxy-7,2',6'-trimethoxyflavone	C18H16O6	328.09468824	<i>Andrographis paniculata</i>
C00013653	175991-74-9	Skullcapflavone 1,2'-O-beta-D-glucopyranoside	C23H24O11	476.13186161	<i>Andrographis paniculata</i>
C00014122	600734-63-2	Dihydroskullcap flavone I	C17H16O6	316.09468824	<i>Andrographis paniculata</i>
C00022232	4176-97-0	14-Deoxyandrographolide	C20H30O4	334.21440945	<i>Andrographis paniculata</i>
C00022233	82209-72-1	Ninandrographolide	C26H40O9	496.26723288	<i>Andrographis paniculata</i>
C00022240	42895-58-9	14-Deoxy-11,14-didehydroandrographolide	C20H28O4	332.19875938	<i>Andrographis paniculata</i>
C00022255	42895-57-8	14-Deoxy-11-oxandrographolide	C20H28O5	348.193674	<i>Andrographis paniculata</i>
C00022256	82209-74-2	14-Acetyl-3,19-isopropylideneandrographolide	C26H40O9	418.21040487	<i>Andrographis paniculata</i>

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Lampiran 5 Data Protein target senyawa kandungan kimia dari Uniprot

Senyawa	Kode gen target	Nama gen target	Nama Protein utama
Caffeic acid	DPP4	Dipeptidyl peptidase 4	Dipeptidyl peptidase 4
	GAA	Alpha glucosidase	-
	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase	-
Chlorogenic acid	PTPN1	protein tyrosine phosphatase non-receptor type 1	Insulin reseptor
	AKR1B1	aldo-keto reductase family 1 member B	-
	AKR1B10	aldo-keto reductase family 1 member B10	-
	GFER	growth factor, augmenter of liver regeneration	-
	ITGA4	integrin subunit alpha 4	-
Ferulic Acid	APP	amyloid beta precursor protein	-
	FXN	frataxin	-
	GFER	growth factor, augmenter of liver regeneration	-
	CA1	carbonic anhydrase 1	-
	CA2	carbonic anhydrase 2	-
	CA3	carbonic anhydrase 3	-
	CA4	carbonic anhydrase 4	-
	CA5A	carbonic anhydrase 5A	-
	CA5B	carbonic anhydrase 5B	-
	CA6	carbonic anhydrase 6	-

Senyawa	Kode gen target	Nama gen target	Nama Protein utama
Ferulic Acid	CA7	carbonic anhydrase 7	-
	CA9	carbonic anhydrase 9	-
	CA12	carbonic anhydrase 12	-
	CA14	carbonic anhydrase 14	-
Beta-sitosterol	F2	coagulation factor II	-
	POLB	DNA polymerase beta	-
	DPP4	Dipeptidyl peptidase 4	Dipeptidyl peptidase 4
	GSK3B	glycogen synthase kinase 3 beta	-
PRKAB2	protein kinase AMP-activated non-catalytic subunit beta 2		-
PRKAG1	protein kinase AMP-activated non-catalytic subunit gamma 1		-
PRKAA2	protein kinase AMP-activated catalytic subunit alpha 2		-
PRKAA1	protein kinase AMP-activated catalytic subunit alpha 1		-
PRKAG3	protein kinase AMP-activated non-catalytic subunit gamma 3		-
PRKAG2	protein kinase AMP-activated non-catalytic subunit gamma 2		-
PRKAB1	protein kinase AMP-activated non-catalytic subunit beta 1		-
Androgapholide	DTDP1	tyrosyl-DNA phosphodiesterase 1	-
	AR	androgen receptor	-
NR1H4	nuclear receptor subfamily 1 group H member 4		-

Senyawa	Kode gen target	Nama gen target	Nama Protein utama
Androgapholide	IFNB1	interferon beta 1	-
	NFKB1	nuclear factor kappa B subunit 1	-
	HLA-B	major histocompatibility complex, class I, B	-
	STK33	serine/threonine kinase 33	-
	AKT1	AKT serine/threonine kinase 1	-
	RELA	RELA proto-oncogene, NF-kB subunit	-
	HDAC1	histone deacetylase 1	-
	HDAC2	histone deacetylase 2	-
	HDAC3	histone deacetylase 3	-
	HDAC4	histone deacetylase 4	-
Cinnamic acid	HDAC5	histone deacetylase 5	-
	HDAC6	histone deacetylase 6	-
	HDAC7	histone deacetylase 7	-
	HDAC8	histone deacetylase 8	-
	HDAC9	histone deacetylase 9	-
	HDAC10	histone deacetylase 10	-
	TNKS	tankyrase	-
	TNKS2	Tankyrase 2	-
	HCAR2	hydroxycarboxylic acid receptor 2	-

Lampiran 6 Visualisasi dengan Cytoscape

