SysPTM

A Systematic Resource for Post Translational Modifications

Home | Search | Browse | Statistics | Submit | Downloads | FAQ | Links

PTMsView

PTMsPredict

PTMsAlign

PTMsCluster

SysPTM entry: P19547

Summary

PTM Site: 50 sites (17 in SysPTM-d, 14 in SysPTM-S)

Protein Description: epidermal growth factor receptor isoform a precursor [Homo sapiens] - EGFCRNA 1 OF EPIDERMAL GROWTH FACTOR RECEPTOR, EGFCRNA 1 OF EPIDERMAL GROWTH FACTOR RECEPTOR [Homo sapiens] - receptor protein-tyrosine kinase ErbB-1 Flags: PrecursorReceptor tyrosine protein kinase ErbB-1Flags: Precursor

Gene Name: EGFR , EGFR , ERBB ERBB1 , ERBB1

Species: Homo sapiens

Reference ID: UniProt: P19547 , RefSeq: NP_005219.2

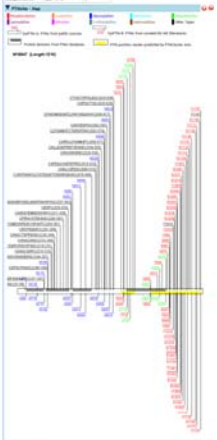
Protein Length: 1210

Protein Structure: 1YY0 , 2GS6 , 2GS7 , 2GS8 , 2J5E , 2J5F , 2J6M , 2JIT , 2JIU , 2JIV , 2ITN , 2ITO , 2ITP , 2ITQ , 2ITT , 2ITU , 2ITV , 2ITW , 2ITX , 2ITY , 2ITZ , 2J3M , 2J3N , 2J3O , 2J3P , 2J3Q , 2J3T , 2J3U , 2J3V , 2J4A , 2J4B , 2J4C , 2J4D , 2J4E , 2J4F , 2J4G , 2J4H , 2J4I , 2J4J , 2J4K , 2J4L , 2J4M , 2J4N , 2J4O , 2J4P , 2J4Q , 2J4R , 2J4S , 2J4T , 2J4U , 2J4V , 2J4W , 2J4X , 2J4Y , 2J4Z , 2J5A , 2J5B , 2J5C , 2J5D , 2J5E , 2J5F , 2J6M , 2JIT , 2JIU , 2JIV , 2ITN , 2ITO , 2ITP , 2ITQ , 2ITT , 2ITU , 2ITV , 2ITW , 2ITX , 2ITY , 2ITZ , 2J3M , 2J3N , 2J3O , 2J3P , 2J3Q , 2J3T , 2J3U , 2J3V , 2J4A , 2J4B , 2J4C , 2J4D , 2J4E , 2J4F , 2J4G , 2J4H , 2J4I , 2J4J , 2J4K , 2J4L , 2J4M , 2J4N , 2J4O , 2J4P , 2J4Q , 2J4R , 2J4S , 2J4T , 2J4U , 2J4V , 2J4W , 2J4X , 2J4Y , 2J4Z , 2J5A , 2J5B , 2J5C , 2J5D

PTMsite - Statistics

PTM_Type	Source	Site_Number
Hydroxylysine	SysPTM-d	2
Disulfide Bridge	SysPTM-d	20
Glycosylation	SysPTM-d,SysPTM-S	12
Phosphorylation	SysPTM-d,SysPTM-S	21
Phosphoserine	SysPTM-S	4
Phosphothreonine	SysPTM-S	10
Ubiquitination	SysPTM-d,SysPTM-S	5
Ubiquitination	SysPTM-d	1

PTMsite - Map



PTMsite - Table

Start	End	Ono_ak	PTM_Type	Source	Pepsi_Number
31	59	CQETYNKLTQLVTPGKHCLDHRTMR	Disulfide Bridge	SysPTM-d	0
76	76	H	Glycosylation	SysPTM-d,SysPTM-S	7
128	128	N	Glycosylation	SysPTM-d,SysPTM-S	1
157	197	CHKECHGPGSPTCVKCAHYKDGPHCVKSCPHGVLGAKGPIYKYPDVQNECRPCHENCTQGCKGPELQDCLGQTLVLIGKTHLTMALTVIAGLVVIFMMLGGTFLYWRGRRIQNKRAMRRYLERGESIEPLDPSEKANKVLARIFKETELRKLKVLGSGVFGTVHKGVWIPEGESIKIPVCIKVIEDKSGRQSFQAVTDHMLAIGSLDHAHIVRLLGLCPGSSLQLVTQYLPLGSLLDHVRQHRGALGPQLLLNWGVQIAKGMYYLEEHGMVHRNLAARNVLLKSPSQVQVADFGVADLLPPDDKQLLYSEAKTPIKWMALESIHFGKYTHQSDVWSYGVTVWELMTFGAEPYAGLRLAEVPDLLEKGERLAQPQICTIDVYMVMVKCWMIDENIRPTFKELANEFTRMARDPPRYLVIKRESGPGIAPGPEPHGLTNKKLEEVELEPELDLDLDLEAEEDNLATTTLGSALSLPVGTLNRPRGSQSLLSPSSGYMPMNQGNLGESCQESAVSGSSERCPRPVSLHPMPRGCLASESSEGHVTGSEAELQEKVSMCRSRSRSRSPRPRGDSAYHSQRHSLLTPVTPLSPPGLEEEDVNGYVMPDTHLKGTPSSREGTLSSVGLSSVLGTEEEDEDEEYEYMNRRRRHSPPHPPRPSSLEELGYEYMDVGSDLSASLGSTQSCPLHPVPIMPTAGTTPDEDYEYMNRQRDGGGPGGDYAAMGACPASEQGYEEMRAFQGPGHQAPHVHYARLKTLRSLEATDSAFDNPDYWHSRLFPKANAQRT

PTMsite - Users

SysPTM-d:

Original_ID	Ono_ak	Keyword	PTM_Type	Source
NP_005219.2 : 31	59	Disulfide Bridge	Disulfide Bridge	HPRDUPMC:PMC4...
EGFR_HUMAN :31	59		Disulfide Bridge	SysPTM:PID16527
NP_005219.2 : 76	76	Glycosylation	Glycosylation	HPRDUPMC:HMC004...:NCPMC
EGFR_HUMAN :76	76	H-linked GlcNAc ...	Glycosylation	SysPTM:CLAB00101
		Pubmed: 17724141,...		
		pepSet: PT724,LAB_00107		
NP_005219.2 : 128	128	Glycosylation	Glycosylation	HPRDUPMC:HMC004...:NCPMC
EGFR_HUMAN :128	128	H-linked GlcNAc ...	Glycosylation	SysPTM:CLAB00101
NP_005219.2 : 157	197	Disulfide Bridge	Disulfide Bridge	HPRDUPMC:PMC4...
EGFR_HUMAN :157	197		Disulfide Bridge	SysPTM:PID16527
NP_005219.2 : 175	175	Glycosylation	Glycosylation	HPRDUPMC:HMC004...:NCPMC
EGFR_HUMAN :175	175	H-linked GlcNAc ...	Glycosylation	SysPTM:CLAB00101
NP_005219.2 : 180	198	Disulfide Bridge	Disulfide Bridge	HPRDUPMC:PMC4...

SysPTM-S:

Original_ID	Ono_ak	Peptide
EGFR_HUMAN :7	7	SLGEFLYPLGLAPPAQHLH
EGFR_HUMAN :7	7	SLNEFRYLRVLSIGDAETTDK
EGFR_HUMAN :7	7	SPHVLQNPEYLGVDIPVGTLPKPTACDYSGYGAHEVSLR
EGFR_HUMAN :7	7	VLEKSDVLNIRPYLTARVQDK
EGFR_HUMAN :7	7	WKVTDFGLAK
EGFR_HUMAN :7	7	VSTAENAEYLR
EGFR_HUMAN :7	7	WKVTDFGLAKTE

PTMsite - Cluster

Cluster	P-Value
267 267 312 322 344 370 378 391 392 395 396 1014 1021 1022 1026 1030 1037 1039 1041 1042 1045 1064 1067 1070 1071 1081 1082 1164 1172 1128 1133 1138 1146 1172 1180 1197	2.412384
429 430 435 716 721 727 752 768	0.0244727

PTMsView - Sequence (FASTA)

PTMsView - Annotation

Domain From Pfam

Start	End	Pfam_ac	Pfam_ID	Pfam_Description	E-value
57	168	PF07974.10	Recep_L_domain	Receptor L domain	1.2E-46
184	248	PF08277.10	Furin-like	Furin-like cysteine rich region	3.2
361	481	PF01030.14	Recep_L_domain	Receptor L domain	2.4E-16
712	968	PF07714.17	Pkinase	Protein kinase domain	1.4E-34
712	968	PF07714.9	Pkinase_Tyr	Protein tyrosine kinase	0.3

Pathway from KEGG

KEGG_ID	KEGG_Name
hsa05219	Bladder cancer
hsa04914	Progesterone-mediated oocyte maturation
hsa04912	GnRH signaling pathway
hsa04911	Insulin secretion
hsa04910	Insulin signaling pathway
hsa04810	Regulation of actin cytoskeleton
hsa04664	Fc epsilon RI signaling pathway
hsa04662	B cell receptor signaling pathway
hsa04660	T cell receptor signaling pathway
hsa04630	Jak-STAT signaling pathway
hsa04620	Toll-like receptor signaling pathway
hsa04540	Gap junction
hsa04530	Tight junction
hsa04520	Adherens junction
hsa04510	Focal adhesion
hsa04350	TGF-beta signaling pathway
hsa04340	Hedgehog signaling pathway
hsa04330	Notch signaling pathway
hsa04310	Wnt signaling pathway
hsa04270	Vascular smooth muscle contraction
hsa04260	Cardiac muscle contraction
hsa04210	Apoptosis
hsa04150	mTOR signaling pathway
hsa04144	Endocytosis
hsa04142	Lysosome
hsa04140	Regulation of autophagy
hsa04130	SNARE interactions in vesicular transport
hsa04120	Ubiquitin mediated proteolysis
hsa04115	p53 signaling pathway
hsa04110	Cell cycle
hsa04070	Phosphatidylinositol signaling system
hsa04068	FoxO signaling pathway
hsa04066	HIF-1 signaling pathway
hsa04064	NF-kappa B signaling pathway
hsa04062	Chemokine signaling pathway
hsa04060	Cytokine-cytokine receptor interaction
hsa04020	Calcium signaling pathway
hsa04015	Rap1 signaling pathway
hsa04014	Ras signaling pathway
hsa04012	ErbB signaling pathway
hsa04010	MAPK signaling pathway
hsa04012	ErbB signaling pathway
hsa04014	Ras signaling pathway
hsa04015	Rap1 signaling pathway
hsa04020	Calcium signaling pathway
hsa04060	Cytokine-cytokine receptor interaction
hsa04062	Chemokine signaling pathway
hsa04064	NF-kappa B signaling pathway
hsa04066	HIF-1 signaling pathway
hsa04068	FoxO signaling pathway
hsa04070	Phosphatidylinositol signaling system
hsa04110	Cell cycle
hsa04115	p53 signaling pathway
hsa04120	Ubiquitin mediated proteolysis
hsa04130	SNARE interactions in vesicular transport
hsa04140	Regulation of autophagy
hsa04142	Lysosome
hsa04144	Endocytosis
hsa04150	mTOR signaling pathway
hsa04210	Apoptosis
hsa04260	Cardiac muscle contraction
hsa04270	Vascular smooth muscle contraction
hsa04310	Wnt signaling pathway
hsa04330	Notch signaling pathway
hsa04340	Hedgehog signaling pathway
hsa04350	TGF-beta signaling pathway
hsa04510	Focal adhesion
hsa04520	Adherens junction
hsa04530	Tight junction
hsa04540	Gap junction
hsa04620	Toll-like receptor signaling pathway
hsa04630	Jak-STAT signaling pathway
hsa04660	T cell receptor signaling pathway
hsa04662	B cell receptor signaling pathway
hsa04664	Fc epsilon RI signaling pathway
hsa04810	Regulation of actin cytoskeleton
hsa04912	GnRH signaling pathway
hsa04914	Progesterone-mediated oocyte maturation
hsa05219	Bladder cancer

Association with Disease From OMIM

OMIM_ID	OMIM_Name	OMIM_Type
131550	EPIDERMAL GROWTH FACTOR RECEPTOR, ERBB1	Gene with known sequence
211980	LUNG CANCER	Phenotype description, molecular basis known

Molecular Function From GO

GO_ID	GO_Evidence	GO_Name
GO:0005524	IEA	nucleotide binding
GO:0003688	IMA	double-stranded DNA binding
GO:0005515	IPI	SH3/SH2 domain binding activity
GO:0004888	IEA	transmembrane receptor activity
GO:0005006	IEA	epidermal growth factor receptor activity
GO:0005006	TAS	epidermal growth factor receptor activity
GO:0005524	IEA	ATP binding
GO:0016740	IEA	transferase activity
GO:0016301	IEA	nitric oxide synthase regulator activity
GO:0019900	IPI	identical protein binding
GO:0016492	IEA	protein tyrosine/threonine phosphatase activity
GO:0051015	IEA	actin filament binding

Biological Process From GO

GO_ID	GO_Evidence	GO_Name
GO:0007283	IMC	spermatogenesis
GO:0006950	TAS	response to stress
GO:0007166	IEA	cell surface receptor linked signal transduction
GO:0007173	IEA	epidermal growth factor receptor signaling pathway
GO:0007202	TAS	activation of phospholipase C activity
GO:0016337	IMP	cell-cell adhesion
GO:0030335	IMP	positive regulation of cell migration
GO:0046327	IEA	positive regulation of phosphorylation
GO:0043066	TAS	calcium-dependent phospholipase A2 activation
GO:0043066	IEA	positive regulation of MAP kinase activity
GO:0045425	IEA	positive regulation of nitric oxide biosynthetic process
GO:0045786	IEA	negative regulation of cell cycle
GO:0042573	IEA	protein amino acid autophosphorylation
GO:0030574	IEA	positive regulation of epithelial cell proliferation
GO:0050730	IMP	regulation of peptidyl-tyrosine phosphorylation
GO:0050999	IEA	regulation of nitric oxide synthase activity
GO:0051260	TAS	protein homooligomerization
GO:0007173	IEA	epidermal growth factor receptor signaling ...
GO:0018279	IEA	positive regulation of epithelial cell prol...
GO:0045429	IEA	positive regulation of nitric oxide biosyn...
GO:0050730	IMP	regulation of peptidyl-tyrosine phosphoryla...

Cell Component From GO

GO_ID	GO_Evidence	GO_Name
GO:0005576	IEA	extracellular region
GO:0005615	NAS	extracellular space
GO:0005622	IEA	intracellular
GO:0005634	IEA	nucleus
GO:0005737	IEA	cytoplasm
GO:0005768	IEA	endosome
GO:0005783	IEA	endoplasmic reticulum
GO:0005886	TAS	plasma membrane
GO:0016020	IEA	plasma membrane
GO:0016021	IEA	integral to membrane
GO:0016323	IEA	basolateral plasma membrane
GO:0030122	TAS	AP-2 adaptor complex
GO:0030135	IEA	endocytic vesicle
GO:0016323	IEA	basolateral plasma membrane

Ortholog Group From HomoloGene

Group: 74040 Records Publications

Species	Homo_Symbol	NCBI_accession	SysPTM_ID
Bos taurus	EGFR	XP_002697...	
Canis lupus familiaris	EGFR	XP_533871...	
Danio rerio	egfr	NP_570928	
Homo sapiens	EGFR	NP_005219	P19547
Mus musculus	Egfr	NP_207238	P07523
Pan troglodytes	EGFR	XP_001174695	
Rattus norvegicus	Egfr	NP_113698	