Recombinant Full Length Human JAK2 Protein, C-Flag-tagged

Cat. No. JAK2-177HFL **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Full Length Human JAK2 Protein, fused to Flag-tag at C-terminus, was expressed in Mammalian cells.
Species	Human
Source	Mammalian Cells
Description	This gene encodes a non-receptor tyrosine kinase that plays a central role in cytokine and growth factor signalling. The primary isoform of this protein has an N-terminal FERM domain that is required for erythropoietin receptor association, an SH2 domain that binds STAT transcription factors, a pseudokinase domain and a C-terminal tyrosine kinase domain. Cytokine binding induces autophosphorylation and activation of this kinase. This kinase then recruits and phosphorylates signal transducer and activator of transcription (STAT) proteins. Growth factors like TGF-beta 1 also induce phosphorylation and activation of this kinase and translocation of downstream STAT proteins to the nucleus where they influence gene transcription. Mutations in this gene are associated with numerous inflammatory diseases and malignancies. This gene is a downstream target of the pleiotropic cytokine IL6 that is produced by B cells, T cells, dendritic cells and macrophages to produce an immune response or inflammation. Disregulation of the IL6/JAK2/STAT3 signalling pathways produces increased cellular proliferation and myeloproliferative neoplasms of hematopoietic stem cells. A nonsynonymous mutation in the pseudokinase domain of this gene disrupts the domains inhibitory effect and results in constitutive tyrosine phosphorylation activity and hypersensitivity to cytokine signalling. This gene and the

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	IL6/JAK2/STAT3 signalling pathway is a therapeutic target for the treatment of excessive inflammatory responses to viral infections. Alternative splicing results in multiple transcript variants encoding distinct isoforms.
Form	25 mM Tris HCl, pH 7.3, 100 mM glycine, 10% glycerol.
Molecular Mass	130.5 kDa
AA Sequence	MGMACLTMTEMEGTSTSSIYQNGDISGNANSMKQIDPVLQVYLYHSLGKSEADYLT FPSGEYVAEEICIA ASKACGITPVYHNMFALMSETERIWYPPNHVFHIDESTRHNVLY RIRFYFPRWYCSGSNRAYRHGISRGA EAPLLDDFVMSYLFAQWRHDFVHGWIKVP VTHETQEECLGMAVLDMMRIAKENDQTPLAIYNSISYKTFL PKCIRAKIQDYHILTRK RIRYRFRRFIQQFSQCKATARNLKLKYLINLETLQSAFYTEKFEVKEPGSGPS GEEIF ATIIITGNGGIQWSRGKHKESETLTEQDLQLYCDFPNIIDVSIKQANQEGSNESRVVTI HKQDGK NLEIELSSLREALSFVSLIDGYYRLTADAHHYLCKEVAPPAVLENIQSNCH GPISMDFAISKLKKAGNQT GLYVLRCSPKDFNKYFLTFAVERENVIEYKHCLITKNEN EEYNLSGTKKNFSSLKDLLNCYQMETVRSDN IIFQFTKCCPPKPKDKSNLLVFRTNG VSDVPTSPTLQRPTHMNQMVFHKIRNEDLIFNESLGQGTFTKIF KGVRREVGDYGQ LHETEVLLKVLDKAHRNYSESFFEAASMMSKLSHKHLVLNYGVCVCGDENILVQEFV K FGSLDTYLKKNKNCINILWKLEVAKQLAWAMHFLEENTLIHGNVCAKNILLIREEDR KTGNPPFIKLSDP GISITVLPKDILQERIPWVPPECIENPKNLNLATDKWSFGTTLWEI CSGGDKPLSALDSQRKLQFYEDRH QLPAPKWAELANLINNCMDYEPDFRPSFRAII RDLNSLFTPDYELLTENDMLPNMRIGALGFSGAFEDRD PTQFEERHLKFLQQLGKG NFGSVEMCRYDPLQDNTGEVVAVKKLQHSTEEHLRDFEREIEILKSLQHDNI VKYKG VCYSAGRRNLKLIMEYLPYGSLRDYLQKHKERIDHIKLLQYTSQICKGMEYLGTKRYI HRDLATR NILVENENRVKIGDFGLTKVLPQDKEYYKVKEPGESPIFWYAPESLTESK FSVASDVWSFGVVLYELFTY IEKSKSPPAEFMRMIGNDKQGQMIVFHLIELLKNNGR LPRPDGCPDEIYMIMTECWNNNVNQRPSFRDLA LRVDQIRDNMAGTRTRPLEQKLISEEDLAANDILDYKDDDDKV

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Purity	> 80% as determined by SDS-PAGE and Coomassie blue staining.
Stability	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
Storage	Store at -80 centigrade.
Concentration	>50 ug/mL as determined by microplate BCA method.
Preparation	Recombinant protein was captured through anti-DDK affinity column followed by conventional chromatography steps.
Protein Families	Druggable Genome, Protein Kinase
Protein Pathways	Adipocytokine signaling pathway, Chemokine signaling pathway, Jak-STAT signaling pathway
Full Length	Full L.

GENE INFORMATION

Gene Name	JAK2 Janus kinase 2 [Homo sapiens (human)]
Official Symbol	JAK2
Synonyms	JTK10
Gene ID	3717
mRNA Refseq	NM_004972.4

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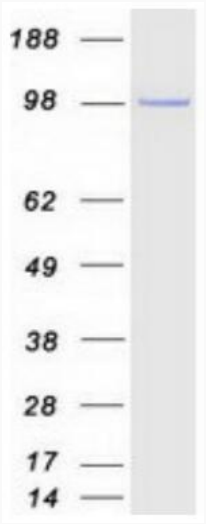
Protein Refseq	NP_004963.1
MIM	147796
UniProt ID	O60674



Coomassie blue staining of purified JAK2 protein.

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