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Product datasheet for TP511681

Jak2 (NM_001048177) Mouse Recombinant Protein

Product data:

Product Type:	Recombinant Proteins
Description:	Purified recombinant protein of Mouse Janus kinase 2 (Jak2), with C-terminal MYC/DDK tag, expressed in HEK293T cells, 20ug
Species:	Mouse
Expression Host:	HEK293T
Expression cDNA Clone or AA Sequence:	>MR211681 representing NM_001048177 Red=Cloning site Green=Tags(s) MGMACLTMTEMEATSTSPVHQNGDIPGSANSVKQIEPVLQVYLYHSLGQAEGEYLKFPSGEYVAEEICVA ASKACGITPVYHNMFALMSETERIWYPPNHVFHIDESTRHDILYRIRFYFPHWYCSGSSRTYRYGVSRGA EAPLLDDFVMSYLFAQWRHDFVHGWIKVPVTHETQEECLGMAVLDMMRIAKEKDQTPLAVYNSVSYKTFL PKCVRAKIQDYHILTRKRIRYRFRRFIQQFSQCKATARNLKLKYLINLETLQSAFYTEQFEVKESARGPS GEEIFATIIITGNGGIQWSRGKHKESETLTEQDVQLYCDFPDIIDVSIKQANQECSNESRIVTVHKQDGK VLEIELSSLKEALSFVSLIDGYYRLTADAHHYLCKEVAPPAVLENIHSNCHGPISMDFAISKLKKAGNQT GLYVLRCSPKDFNKYFLTFAVERENVIEYKHCLITKNENGEYNLSGTKRNFSNLKDLLNCYQMETVRSDS IIFQFTKCCPPKPKDKSNLLVFRTNGISDVQISPTLQRHNNVNQMVFHKIRNEDLIFNESLGQGTFTKIF KGVRREVGDYGQLHKTEVLLKVLDKAHRNYSESFFEAASMMSQLSHKHLVLNYGVCVCGEENILVQEFVK FGSLDTYLKKNKNSINILWKLGVAKQLAWAMHFLEEKSLIHGNVCAKNILLIREENRRTGNPPFIKLSDP GISITVLPKDILQERIPWVPPECIENPKNLNLATDKWSFGTTLWEICSGGDKPLSALDSQRKLQFYEDKH QLPAPKWTELANLINNCMDYEPDFRPAFRAVIRDLNSLFTPDYELLTENDMLPNMRIGALGFSGAFEDRD PTQFEERHLKFLQQLGKGNFGSVEMCRYDPLQDNTGEVVAVKKLQHSTEEHLRDFEREIEILKSLQHDNI VKYKGVCYSAGRRNLRLIMEYLPYGSLRDYLQKHKERIDHKKLLQYTSQICKGMEYLGTKRYIHRDLATR NILVENENRVKIGDFGLTKVLPQDKEYYKVKEPGESPIFWYAPESLTESKFSVASDVWSFGVVLYELFTY IEKSKSPPVEFMRMIGNDKQGQMIVFHLIELLKSNGRLPRPEGCPDEIYVIMTECWNNNVSQRPSFRDLS LRVDQIRDSIAA TRTRPLEQKLISEEDLAANDILDYKDDDDKV
Tag:	C-MYC/DDK
Predicted MW:	131 kDa
Concentration:	>0.05 µg/µL as determined by microplate BCA method
Purity:	> 80% as determined by SDS-PAGE and Coomassie blue staining

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Buffer:	25 mM Tris-HCl, 100 mM glycine, pH 7.3, 10% glycerol
Note:	For testing in cell culture applications, please filter before use. Note that you may experience some loss of protein during the filtration process.
Storage:	Store at -80°C after receiving vials.
Stability:	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
RefSeq:	NP_001041642
Locus ID:	16452
UniProt ID:	Q62120, G5E852
RefSeq Size:	4947
Cytogenetics:	19 23.73 cM
RefSeq ORF:	3396
Synonyms:	Fd17
Summary:	Non-receptor tyrosine kinase involved in various processes such as cell growth, development, differentiation or histone modifications. Mediates essential signaling events in both innate and adaptive immunity. In the cytoplasm, plays a pivotal role in signal transduction via its association with type I receptors such as growth hormone (GHR), prolactin (PRLR), leptin (LEPR), erythropoietin (EPOR), thrombopoietin (THPO); or type II receptors including IFN-alpha, IFN-beta, IFN-gamma and multiple interleukins. Following ligand-binding to cell surface receptors, phosphorylates specific tyrosine residues on the cytoplasmic tails of the receptor, creating docking sites for STATs proteins. Subsequently, phosphorylates the STATs proteins once they are recruited to the receptor. Phosphorylated STATs then form homodimer or heterodimers and translocate to the nucleus to activate gene transcription. For example, cell stimulation with erythropoietin (EPO) during erythropoiesis leads to JAK2 autophosphorylation, activation, and its association with erythropoietin receptor (EPOR) that becomes phosphorylated in its cytoplasmic domain. Then, STAT5 (STAT5A or STAT5B) is recruited, phosphorylated and activated by JAK2. Once activated, dimerized STAT5 translocates into the nucleus and promotes the transcription of several essential genes involved in the modulation of erythropoiesis. Part of a signaling cascade that is activated by increased cellular retinol and that leads to the activation of STAT5 (STAT5A or STAT5B). In addition, JAK2 mediates angiotensin-2-induced ARHGEF1 phosphorylation. Plays a role in cell cycle by phosphorylating CDKN1B. Cooperates with TEC through reciprocal phosphorylation to mediate cytokine-driven activation of FOS transcription. In the nucleus, plays a key role in chromatin by specifically mediating phosphorylation of 'Tyr-41' of histone H3 (H3Y41ph), a specific tag that promotes exclusion of CBX5 (HP1 alpha) from chromatin.[UniProtKB/Swiss-Prot Function]