Recombinant Human JAK2 and EPOR Fusion Protein, FLAG/His-tagged

Cat. No. JAK2-35H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Complex of Human JAK2, also known as Janus Kinase 2, with V617F, Y1007F and Y1008F mutations, GenBank Accession No. NM_004972, a.a. 36-1132(end), with N-terminal FLAG-tag, MW=128 kDa, and human EPOR, also known as Erythropoietin receptor, GenBank Accession No. NM_000121, a.a. 273-338 with N-terminal His-tag, MW=9 kDa. The proteins were expressed as single fusion protein with a (GSSG)8 linker in a Baculovirus infected Sf9 cell expression system.
Species	Human
Source	Insect Cells
ProteinLength	JAK2: 26-1132(end), EPOR: 273-338
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

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	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 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	Aqueous buffer solution
Molecular Mass	JAK2: 128 kDa, EPOR: 9 kDa
Purity	87%
Storage	At least 6 months at –80 centigrade.
Storage Buffer	50 mM Tris-HCl, pH 8.0, 500 mM NaCl, 10% glycerol, 3 mM DTT.

GENE INFORMATION

Gene Name	JAK2 Janus kinase 2 [Homo sapiens (human)]
Official Symbol	JAK2
Synonyms	JAK2; Janus kinase 2; JTK10; tyrosine-protein kinase JAK2; JAK-2; Janus kinase 2 (a protein tyrosine kinase); EC 2.7.10.2; jak; jh1
Gene ID	3717

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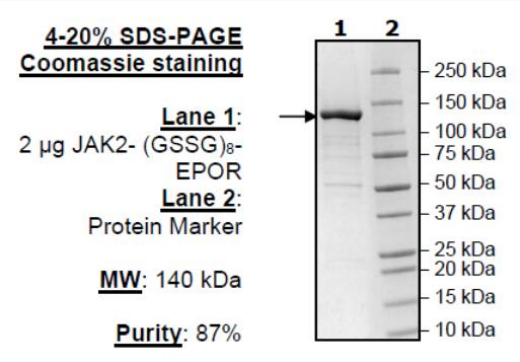
mRNA Refseq	NM_004972
Protein Refseq	NP_004963
MIM	147796
UniProt ID	O60674
SDS-PAGE	

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