

## Product datasheet for **AR51307PU-N**

### Tyrosine-protein kinase JAK2 (1014-1132, His-tag) Human Protein

#### Product data:

Product Type:	Recombinant Proteins
Description:	Tyrosine-protein kinase JAK2 (1014-1132, His-tag) human protein, 0.5 mg
Species:	Human
Expression Host:	E. coli
Expression cDNA Clone or AA Sequence:	MRGSHHHHHH GMASMTGGQQ MGRDLYDDDD KDRWGSHMGE SPIFWYAPES LTESKFVSAS DVWSFGVWLY ELFTYIEKSK SPPAEFMRMI GNDKQGQMIV FHLLIELLKNN GRLPRPDGCP DEIYMIMTEC WNNNVNQRPS FRDLALRVDQ IRDNMAG
Tag:	His-tag
Predicted MW:	18.1 kDa
Concentration:	lot specific
Purity:	>95% by SDS - PAGE
Buffer:	Presentation State: Purified State: Liquid purified protein Buffer System: 20 mM Tris-HCl buffer (pH 8.0) containing 10% glycerol, 0.4M Urea
Preparation:	Liquid purified protein
Storage:	Store undiluted at 2-8°C for one week or (in aliquots) at -20°C to -80°C for longer. Avoid repeated freezing and thawing.
Stability:	Shelf life: one year from despatch.
RefSeq:	<a href="#">NP_001309123</a>
Locus ID:	3717
UniProt ID:	<a href="#">O60674</a>
Cytogenetics:	9p24.1
Synonyms:	JTK10



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**Summary:**

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 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. [provided by RefSeq, Jul 2020]

**Protein Families:**

Druggable Genome, Protein Kinase

**Protein Pathways:**

Adipocytokine signaling pathway, Chemokine signaling pathway, Jak-STAT signaling pathway

**Product images:**