

Jak3 Antibody (C-term) Blocking Peptide
Synthetic peptide
Catalog # BP1533a**Specification**

Jak3 Antibody (C-term) Blocking Peptide - Product InformationPrimary Accession [P52333](#)**Jak3 Antibody (C-term) Blocking Peptide - Additional Information****Gene ID** 3718**Other Names**

Tyrosine-protein kinase JAK3, Janus kinase 3, JAK-3, Leukocyte janus kinase, L-JAK, JAK3

Target/Specificity

The synthetic peptide sequence used to generate the antibody [AP1533a](/product/products/AP1533a) was selected from the C-term region of human Jak3. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Jak3 Antibody (C-term) Blocking Peptide - Protein Information**Name** JAK3 ([HGNC:6193](#))**Function**

Non-receptor tyrosine kinase involved in various processes such as cell growth, development, or differentiation. Mediates essential signaling events in both innate and adaptive immunity and plays a crucial role in hematopoiesis during T-cells development. In the cytoplasm, plays a pivotal role in signal transduction via its association with type I receptors sharing the common subunit gamma such as IL2R, IL4R, IL7R, IL9R, IL15R and IL21R. 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, upon IL2R activation by IL2, JAK1 and JAK3 molecules bind to IL2R beta (IL2RB) and gamma chain (IL2RG) subunits inducing the tyrosine phosphorylation of both receptor subunits on their cytoplasmic domain. Then, STAT5A and STAT5B are recruited, phosphorylated and activated by JAK1 and JAK3. Once

activated, dimerized STAT5 translocates to the nucleus and promotes the transcription of specific target genes in a cytokine-specific fashion.

Cellular Location

Endomembrane system; Peripheral membrane protein. Cytoplasm

Tissue Location

In NK cells and an NK-like cell line but not in resting T-cells or in other tissues. The S-form is more commonly seen in hematopoietic lines, whereas the B-form is detected in cells both of hematopoietic and epithelial origins.

Jak3 Antibody (C-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

Jak3 Antibody (C-term) Blocking Peptide - Images**Jak3 Antibody (C-term) Blocking Peptide - Background**

JAK3 encodes Janus kinase 3, a tyrosine kinase that belongs to the Janus family. JAK3 functions in signal transduction and interacts with members of the STAT (signal transduction and activators of transcription) family. JAK3 is predominantly expressed in immune cells and transduces a signal in response to its activation via tyrosine phosphorylation by interleukin receptors. Mutations that abrogate Janus kinase 3 function cause an autosomal SCID (severe combined immunodeficiency disease).

Jak3 Antibody (C-term) Blocking Peptide - References

Schumacher, R.F., et al., Hum. Genet. 106(1):73-79 (2000). Bozzi, F., et al., Br. J. Haematol. 102(5):1363-1366 (1998). Candotti, F., et al., Blood 90(10):3996-4003 (1997). Verbsky, J.W., et al., J. Biol. Chem. 271(24):13976-13980 (1996). Lai, K.S., et al., J. Biol. Chem. 270(42):25028-25036 (1995).