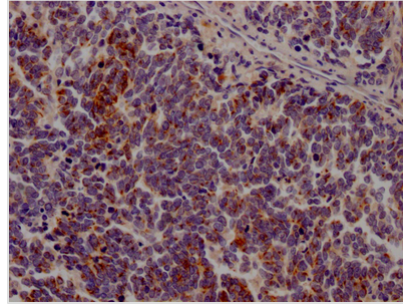




JAK3 Antibody

Product Code	CSB-RA206737A0HU
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	P52333
Immunogen	A synthesized peptide derived from human JAK3
Species Reactivity	Human
Tested Applications	ELISA, IHC; Recommended dilution: IHC:1:50-1:200
Relevance	<p>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.</p>
Form	Liquid
Conjugate	Non-conjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purification Method	Affinity-chromatography
Isotype	Rabbit IgG
Clonality	Monoclonal
Product Type	Recombinant Antibody
Immunogen Species	Homo sapiens (Human)
Research Area	Epigenetics and Nuclear Signaling; Cancer; Signal transduction
Gene Names	JAK3
Accession NO.	1C7
Image	



IHC image of CSB-RA206737A0HU diluted at 1:100 and staining in paraffin-embedded human lung cancer performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4°C overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB.

Description

JAK3 is only expressed in hematopoietic lineages and is exclusively coexpressed and linked with the gamma chain (γ c). JAK3 is a key regulator of lymphopoiesis, and mutations in the JAK3 gene can cause severe combined immunodeficiency, as well as leukemia and lymphomas. JAK3 works in a heterodimeric pair with JAK1 in cytokine signaling, transmitting signals from IL-2, IL-4, IL-7, IL-9, IL-15, and IL-21 that govern lymphoid lineage cell growth and activation. JAK3 deficiency causes signal transduction through the common c to be disrupted, resulting in immunodeficiency, suggesting that targeted inhibition of JAK3 kinase may cause immunosuppression.

The recombinant JAK3 antibody is a monoclonal antibody generated by cloning JAK3 antibody genes into plasma vectors and transfecting vector clones into stable cell lines for production. For recombinant antibody generation, mammalian cell lines like CHO cells and HEK293 are commonly used. The recombinant JAK3 antibody was purified using Affinity-chromatography. It has verified to detect JAK3 protein from Human in the ELISA, IHC.