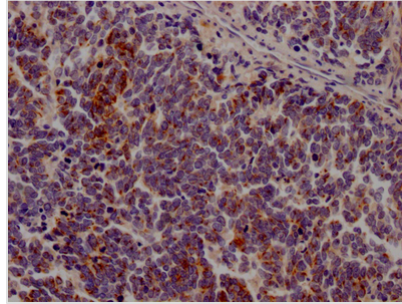




JAK3 Recombinant Monoclonal Antibody

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
Clone 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? overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB.

Description

The JAK3 recombinant monoclonal antibody starts with the synthesis of the gene coding for the JAK3 monoclonal antibody. The JAK3 monoclonal antibody was generated by immunizing animals with a synthesized peptide derived from human JAK3, followed by the fusion of B cells with myeloma cells to generate hybridomas. The variable light and heavy domains of the antibody-producing hybridomas were sequenced. The JAK3 monoclonal antibody gene was then cloned into a vector, which was transfected into cells for cultivation. The resulting JAK3 recombinant monoclonal antibody was isolated and purified through affinity chromatography from the cell culture supernatant. It only reacts with human JAK3 protein and is suitable for use in both ELISA and IHC applications.

The JAK3 protein is a member of the JAK family of tyrosine kinases that play important roles in cytokine signaling. Once activated, JAK3 phosphorylates and activates downstream STAT proteins, which then translocate to the nucleus and regulate gene expression. JAK3-mediated signaling is important for the development and function of immune cells, particularly T cells. Mutations in the JAK3 gene are associated with severe combined immunodeficiency (SCID), a rare genetic disorder that impairs the immune system.