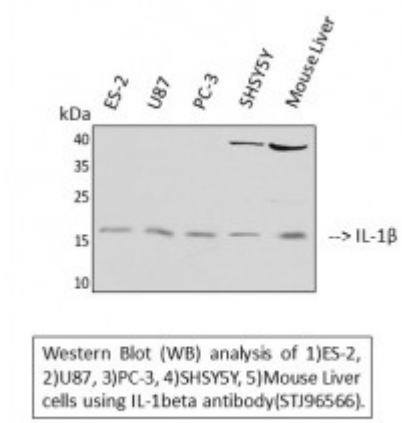
Anti-IL- beta antibody



Western Blot (WB) analysis of 1)ES-2, 2)U87, 3)PC-3, 4)SHSY5Y, 5)Mouse Liver cells using IL-1beta antibody(STJ96566).

Description	IL-1 beta is a protein encoded by the IL1B gene which is approximately 30,7 kDa. IL-1 beta is localised to the cytoplasm and is involved in PEDF induced signalling, toll-like receptor signalling pathways, TGF-beta pathway and ERK signalling. This protein falls under the interleukin 1 cytokine family. It is a potent proinflammatory cytokine and is produced by activated macrophages as a proprotein, which is proteolytically processed to its active form by caspase 1. It is an important mediator of the inflammatory response, and is involved in a variety of cellular activities, including cell proliferation, differentiation, and apoptosis. IL-1 beta is expressed in the activated monocytes/macrophages. Mutations in the IL1B gene may result in Periodontal Disease, Toxic Shock Syndrome and Endometritis. STJ96566 was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen. This polyclonal antibody detects endogenous levels of IL-1 beta protein.

Model	STJ96566
Host	Rabbit
Reactivity	Human, Mouse, Rat
Applications	ELISA, IHC, WB
Immunogen	Synthesized peptide derived from human IL-1beta.
Immunogen Region	Internal
Gene ID	3553
Gene Symbol	IL1B
Dilution range	WB 1:500-1:2000IHC-P 1:100-300ELISA 1:20000

Specificity	IL-1beta Polyclonal Antibody detects endogenous levels of IL-1beta protein.
Tissue Specificity	Expressed in activated monocytes/macrophages (at protein level).
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Note	For Research Use Only (RUO).
Protein Name	Interleukin-1 beta IL-1 beta Catabolin
Molecular Weight	17/30 kDa
Clonality	Polyclonal
Conjugation	Unconjugated
Isotype	IgG
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Concentration	1 mg/ml
Storage Instruction	Store at -20°C, and avoid repeat freeze-thaw cycles.
Database Links	HGNC:5992OMIM:147720
Alternative Names	Interleukin-1 beta IL-1 beta Catabolin
Function	Potent proinflammatory cytokine. Initially discovered as the major endogenous pyrogen, induces prostaglandin synthesis, neutrophil influx and activation, T-cell activation and cytokine production, B-cell activation and antibody production, and fibroblast proliferation and collagen production. Promotes Th17 differentiation of T-cells.
Cellular Localization	Cytoplasm, cytosol Lysosome Secreted, exosome Secreted. The precursor is cytosolic. In response to inflammasome-activating signals, such as ATP for NLRP3 inflammasome or bacterial flagellin for NLRC4 inflammasome, cleaved and secreted. IL1B lacks any known signal sequence and the pathway(s) of its secretion is(are) not yet fully understood . On the basis of experimental results, several unconventional secretion mechanisms have been proposed. 1. Secretion via secretory lysosomes: a fraction of CASP1 and IL1B precursor may be incorporated, by a yet undefined mechanism, into secretory lysosomes that undergo Ca(2+)-dependent exocytosis with release of mature IL1B . 2. Secretory autophagy: IL1B-containing autophagosomes may fuse with endosomes or multivesicular bodies (MVBs) and then merge with the plasma membrane releasing soluble IL1B or IL1B-containing exosomes . However, autophagy impacts IL1B production at several levels and its role in secretion is still controversial. 3. Secretion via exosomes: ATP-activation of P2RX7 leads to the formation of MVBs containing exosomes with entrapped IL1B, CASP1 and other inflammasome components. These MVBs undergo exocytosis with the release of exosomes. The release of soluble IL1B occurs after the lysis of exosome membranes . 4. Secretion by microvesicle shedding: activation of the ATP receptor P2RX7 may induce an immediate shedding of membrane-derived microvesicles containing IL1B and possibly inflammasome components. The cytokine is then released in the extracellular compartment after microvesicle lysis . 5. Release by translocation through permeabilized plasma membrane. This may occur in cells undergoing pyroptosis due to sustained activation of the inflammasome . These

	mechanisms may not be not mutually exclusive.
Post-translational Modifications	Activation of the IL1B precursor involves a CASP1-catalyzed proteolytic cleavage. Processing and secretion are temporarily associated.