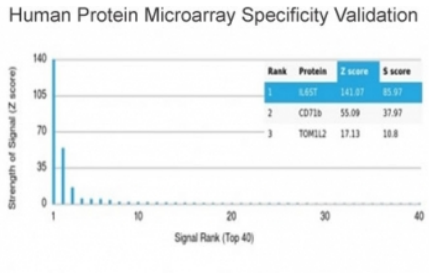
Interleukin 6 Receptor subunit beta Antibody / IL6ST / CD130 [clone IL6ST/4101] (V9656)

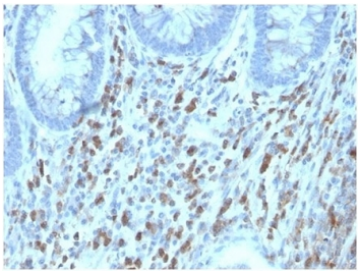
Catalog No.	Formulation	Size
V9656-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V9656-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V9656SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b, kappa
Clone Name	IL6ST/4101
Purity	Protein A/G affinity
UniProt	P40189
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml
Limitations	This Interleukin 6 Receptor subunit beta antibody is available for research use only.



Analysis of HuProt(TM) microarray containing more than 19,000 full-length human proteins using Interleukin 6 Receptor subunit beta antibody (clone IL6ST/4101). These results demonstrate the foremost specificity of the IL6ST/4101 mAb. Z- and S- score: The Z-score represents the strength of a signal that an antibody (in combination with a fluorescently-tagged anti-IgG secondary Ab) produces when binding to a particular protein on the HuProt(TM) array. Z-scores are described in units of standard deviations (SD's) above the mean value of all signals generated on that array. If the targets on the HuProt(TM) are arranged in descending order of the Z-score, the S-score is the difference (also in units of SD's) between the Z-scores. The S-score therefore represents the relative target specificity of an Ab to its intended target.



IHC staining of FFPE human adrenal gland tissue with Interleukin 6 Receptor subunit beta antibody (clone IL6ST/4101). HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.

Description

Interleukin 6 Receptor subunit beta Antibody detects Interleukin 6 receptor subunit beta, also known as glycoprotein 130 (gp130) and CD130, a transmembrane signal transducer shared by the interleukin 6 cytokine family. Encoded by the IL6ST gene on chromosome 5q11.2, this receptor subunit partners with ligand-specific alpha receptors to form high-affinity complexes for interleukin 6, leukemia inhibitory factor, oncostatin M, cardiotrophin 1, ciliary neurotrophic factor, and related cytokines. Ligand engagement drives gp130 homodimerization or hetero-oligomerization, activating JAK kinases and downstream STAT3, MAPK, and PI3K pathways that govern inflammation, hematopoiesis, tissue protection, and cell survival.

Interleukin 6 receptor subunit beta is a 918 amino acid type I membrane glycoprotein of approximately 130 kilodaltons. The ectodomain contains six fibronectin type III like modules and an immunoglobulin like domain that support cytokine and co-receptor binding, followed by a single transmembrane helix and a cytoplasmic tail enriched in box motifs that recruit JAKs and STATs. A soluble form generated by proteolysis or alternative splicing can modulate signaling range by extending cytokine activity to cells that lack the alpha receptor, a process referred to as trans signaling.

The Interleukin 6 Receptor subunit beta Antibody is widely used in immunology, oncology, and regenerative biology to quantify gp130 expression, map receptor distribution, and monitor pathway activation. In western blot, the antibody typically detects a band near 130 kilodaltons; glycosylation or receptor processing may produce additional bands. Immunohistochemistry and immunofluorescence reveal membrane and perinuclear staining in leukocytes, hepatocytes, endothelial cells, and many epithelial lineages. Co-staining with phospho-STAT3 or JAK markers enables correlation of receptor abundance with signaling output under cytokine stimulation or inhibitor treatment.

Functionally, Interleukin 6 receptor subunit beta integrates diverse cytokine cues. In the liver, IL-6 family signaling through gp130 triggers the acute phase response and supports metabolic adaptation. In the immune system, gp130 coordinates T cell differentiation, B cell maturation, and antibody production. In the nervous and cardiovascular systems, gp130 dependent ligands promote neuronal survival and cardiomyocyte protection. Persistent activation due to tumor derived cytokines or microenvironmental inflammation sustains STAT3 driven transcriptional programs that enhance proliferation, angiogenesis, and immune evasion. Conversely, loss of function variants in IL6ST impair host defense and hematopoiesis and can present with immunodeficiency phenotypes.

Experimental modulation of gp130 highlights therapeutic opportunities. Neutralizing antibodies or small molecules that disrupt IL-6 family signaling reduce inflammatory cascades in autoimmune diseases, while engineered cytokine muteins that bias gp130 output are being explored for tissue repair. The Interleukin 6 Receptor subunit beta Antibody supports these efforts by enabling baseline profiling of receptor expression, verification of pathway blockade, and assessment of receptor internalization and recycling after ligand exposure. NSJ Bioreagents validates this antibody for western blotting, immunohistochemistry, and immunofluorescence to ensure sensitive and specific detection across primary cells, tissues, and model systems.

Application Notes

Optimal dilution of the Interleukin 6 Receptor subunit beta antibody should be determined by the researcher.

Immunogen

A recombinant fragment of the human protein corresponding to the extracellular domain was used as the immunogen for

the Interleukin 6 Receptor subunit beta antibody.

Storage

Aliquot the Interleukin 6 Receptor subunit beta antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.