Purified Anti-Human IL-6 Antibody[MQ2-13A5], Functional Grade

catalog number: **E-AB-F12060**

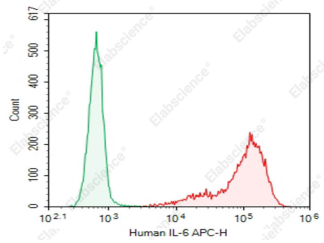
Note: *Centrifuge before opening to ensure complete recovery of vial contents.*

Description

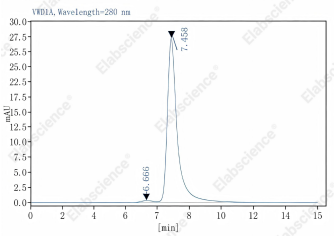
Reactivity	Human
Immunogen	Recombinant Human IL-6 protein
Host	Rat
Isotype	Rat IgG1, κ
Clone	MQ2-13A5
Purification	>98%, Protein A/G purified
Buffer	Sterile PBS, pH 7.2. < 1.0 EU per mg of the antibody as determined by the LAL method.

Applications	Recommended Dilution
FCM	≤ 0.2 μg per million cells in 100 μL volume
Neut	Reported in the literature

Data



HEK293T cells transfected with pcDNA3.1 plasmid encoding Human IL-6 gene were stained with 0.2 μg Purified Anti-Human IL-6 Antibody[MQ2-13A5], Functional Grade (Right) and 0.2 μg Rat IgG1, κ Isotype Control (Left), followed by APC-conjugated Goat Anti-Rat IgG Secondary Antibody.



HEK293T cells transfected with pcDNA3.1 plasmid encoding Human IL-6 gene were stained with 0.2 μg Purified Anti-Human IL-6 Antibody[MQ2-13A5], Functional Grade (Right) and 0.2 μg Rat IgG1, κ Isotype Control (Left), followed by APC-conjugated Goat Anti-Rat IgG Secondary Antibody.

Preparation & Storage

Storage	Store at 4°C valid for 12 months or -20°C valid for long term storage, avoid freeze / thaw cycles. This preparation contains no preservatives, thus it should be handled under aseptic conditions.
Shipping	Ice bag

Background

Interleukin-6 (IL-6) is a pleiotropic, alpha -helical, phosphorylated and variably glycosylated cytokine that plays important roles in the acute phase reaction, inflammation, hematopoiesis, bone metabolism, and cancer progression. Mature human IL-6 is 183 amino acids (aa) in length expressed as a 22-28 kDA molecular weight protein. IL-6 shares 39% aa sequence identity with mouse and rat IL-6. Alternative splicing generates several isoforms with internal deletions, some of which exhibit antagonistic properties. IL-6 induces signaling through a cell surface heterodimeric receptor complex composed of a ligand binding subunit (IL-6 R alpha) and a signal transducing subunit (gp130). IL-6 binds to IL-6 R alpha, triggering IL-6 R alpha association with gp130 and gp130 dimerization. gp130 is also a component of the receptors for CLC, CNTF, CT-1, IL-11, IL-27, LIF, and OSM. Soluble forms of IL-6 R alpha are generated by both alternative splicing and proteolytic cleavage. In a mechanism known as trans-signaling, complexes of soluble IL-6 and IL-6 R alpha elicit responses from gp130-expressing cells that lack cell surface IL-6 R alpha. Trans-signaling enables a wider range of cell types to respond to IL-6, as the expression of gp130 is ubiquitous, while that of IL-6 R alpha is predominantly restricted to hepatocytes, monocytes, and resting lymphocyte s. Soluble splice forms of gp130 block trans-signaling from IL-6/IL-6 R alpha but not from other cytokines that use gp130 as a co-receptor. IL-6, along with TNF-alpha and IL-1, function to drive the acute inflammatory response and the transition from acute inflammation to either acquired immunity or chronic inflammatory disease. When dysregulated, it contributes to chronic inflammation in obesity, insulin resistance, inflammatory bowel disease, arthritis, sepsis, and atherosclerosis. IL-6 can also function as an anti-inflammatory molecule, as in skeletal muscle where it is secreted in response to exercise. In addition, it enhances hematopoietic stem cell proliferation and the differentiation of Th17 cells, memory B cells, and plasma cells.

None (Azide-Free,Low Endotoxin) are perfectly suited to be used in culture or in vivo (for nonhuman studies) for functional assays blocking, neutralizing, activation or depletion where the presence of azide may damage cells or exogenous endotoxin may signal or activate cells.

Application References

OConnor RA, et al. OncoImmunology. 2021;10(1):1940675.