HRP Conjugated Anti-Human IL-6 Antibody [PS00-15] - Detector

HA721293

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Dog, Cynomolgus monkey
Applications:	ELISA(Det)
Molecular Wt:	Predicted band size: 24 kDa
Clone number:	PS00-15

Description: Interleukin 6 (IL-6) is an interleukin that acts as both a pro-inflammatory cytokine and an anti-inflammatory myokine. In addition, osteoblasts secrete IL-6 to stimulate osteoclast formation. Smooth muscle cells in the tunica media of many blood vessels also produce IL-6 as a pro-inflammatory cytokine. IL-6's role as an anti-inflammatory myokine is mediated through its inhibitory effects on TNF-alpha and IL-1 and its activation of IL-1ra and IL-10. There is some early evidence that IL-6 can be used as an inflammatory marker for severe COVID-19 infection with poor prognosis, in the context of the wider coronavirus pandemic. IL-6 is secreted by macrophages in response to specific microbial molecules, referred to as pathogen-associated molecular patterns (PAMPs). These PAMPs bind to an important group of detection molecules of the innate immune system, called pattern recognition receptors (PRRs), including Toll-like receptors (TLRs). These are present on the cell surface and intracellular compartments and induce intracellular signaling cascades that give rise to inflammatory cytokine production. IL-6 is an important mediator of fever and of the acute phase response. IL-6 stimulates the inflammatory and auto-immune processes in many diseases such as multiple sclerosis, neuromyelitis optica spectrum disorder (NMOSD), diabetes, atherosclerosis, depression, Alzheimer's disease, systemic lupus erythematosus, multiple myeloma, prostate cancer, Behçet's disease, rheumatoid arthritis, and intracerebral hemorrhage. The Capture Antibody (HA721167) supplied in an unconjugated format and it is suitable for sandwich ELISAs to quantify Human IL-6. The recommended pair for sandwich ELISA is Detection Antibody (HA721168). The reference range value is 5 - 1000 pg/ml for human IL-6.

Conjugate:	HRP-conjugated
Immunogen:	Recombinant full length of human IL6 protein (HA210797).
Positive control:	Recombinant human IL6 protein (HA210797).
Subcellular location:	Extracellular region or secreted.
Database links:	SwissProt: P05231 Human Entrez Gene: 3569 Human Unigene: 654458 Human
Recommended Dilutions:	
ELISA (Det)	1:10,000. Use at an assay dependent concentration.
Storage Buffer:	PBS (pH7.4), 0.1% BSA, 40% Glycerol.
Storage Instruction:	Shipped at 4℃. Store at +4℃ short term (1-2 weeks). Store at -20℃ long term.
Purity:	Protein A affinity purified.

Images

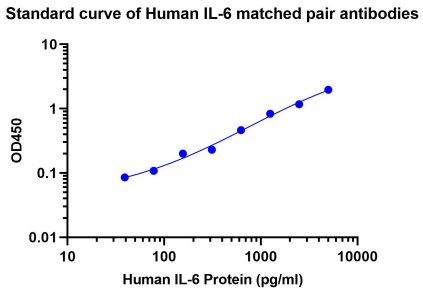

Fig1: Dilute the Capture Antibody (HA721167) to the working concentration 5μg/ml in PBS without carrier protein. Immediately coat a 96-well microplate with 100 μL per well of the diluted Capture Antibody. Seal the plate and incubate overnight at 4℃. Aspirate each well and wash with Wash Buffer, repeating the process two times for a total of three washes. Add human IL6 protein (HA210797) with 1:1 serially diluted starting from a concentration of 5,000pg/ml and incubate 45 minutes at room temperature. Add 100 μL of the HRP-conjugated Detection Antibody (PS00-15) at a dilution of 0.2μg/ml to each well. Cover the plate and incubate for 30 minutes at room temperature. Add 50 μL of Stop Solution to each well. Determine the optical density of each well immediately, using a microplate reader set to 450 nm.

Fig2: Advantages of Using rAbs:

Increased Reproducibility

Because recombinant antibody production involves sequencing the antibody light and heavy chains, recombinant antibody production allows researchers more control over the antigen.

Ease of Scalability and Continuous Supply

In vitro methods for producing antibodies are amenable to large-scale production, meaning antibody availability is unlikely to become a limiting factor. Recombinant antibodies can be produced in weeks as opposed to months.

Animal-Free Tech

Once the antibody-producing genes are isolated, high-throughput in vitro manufacture can be implemented. This eliminates the numerous ethical and animal welfare concerns commonly associated with traditional monoclonal antibody production.

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Kang S., Tanaka T., Narazaki M., Kishimoto T. Targeting Interleukin-6 Signaling in Clinic. Immunity 50:1007-1023(2019).
2. Wolsk E., Mygind H., Groendahl T.S., Pedersen B.K., van Hall G. IL-6 selectively stimulates fat metabolism in human skeletal muscle. Am. J. Physiol. 299:E832-E840(2010)