

Human Fc receptor panel - Biotin

Product Code: ICH3019B

More Information

Species Reactivity: Human

Target: Human Fc receptor panel

Host: Human embryonic kidney (HEK) 293 cells.

product name H2: Human Fc receptor panel - Biotin

Shipping Conditions: Ambient

background: ICH3019 is a Human Fc receptor panel: a collection of purified human Fc-receptor proteins supplied as a research reagent rather than a single antibody. Fc receptors are the cell-surface and soluble proteins that engage the fragment-crystallisable (Fc) region of immunoglobulins and translate antibody binding into biological effects. A panel format lets investigators compare, in parallel, how a given antibody or Fc-engineered molecule interacts across the family of receptors, which is central to understanding effector function, clearance and safety. Typical members of a human Fcγ-receptor panel span the high- and low-affinity activating and inhibitory receptors and their common allelic variants, and neonatal FcRn is often included where recycling/half-life is of interest. Because it is a defined-protein reagent, the panel is intended for binding, screening and characterisation assays (for example ELISA, SPR/BLI, or cell-based readouts) rather than for administration to animals. This makes it well suited to biosimilar comparability, Fc-engineering and antibody developability workflows. Supplied research use only. Investigators should confirm the exact receptors, isoforms and allotypes included for their application. Fc receptors bind the Fc region of immunoglobulins and couple antibody recognition to downstream immune activity. The human Fcγ receptor family comprises activating receptors that signal through immunoreceptor tyrosine-based activation motifs (for example the high-affinity FcγRI and the low-affinity FcγRIIa and FcγRIIIa) and the inhibitory FcγRIIb, which signals through an inhibitory motif; FcγRIIIb is GPI-anchored on neutrophils. The balance of activating versus inhibitory engagement governs effector functions such as antibody-dependent cellular cytotoxicity, phagocytosis and immune-

complex clearance. Allelic variants (such as FcγRIIa H131/R131 and FcγRIIIa V158/F158) alter IgG-subclass affinity and can influence therapeutic-antibody activity. The neonatal receptor FcRn instead binds IgG in a pH-dependent manner to mediate recycling and prolong serum half-life. Together these receptors are key determinants of antibody potency, pharmacokinetics and biosimilar comparability.

Specificity: A panel of 9 individual proteins consisting of all human Fc gamma receptors, including the allotypic variants, and FcRn. The 9 proteins are CD64, CD32a [167H], CD32a [167R], CD32b, CD16a [176F], CD16a [176V], CD16b [NA1], CD16b [NA2] and FcRn (consisting of FCGRT and B2M). Each protein consists of the extracellular domain fused with a C-terminal tag consisting of the AVI tag, TEV protease recognition sequence and a 10-His tag. All proteins are provided in biotinylated form.

Formulation: Lyophilized from sterile PBS, pH 7.4. No preservatives or cryoprotectants have been added. To obtain a final concentration of 1 mg/ml reconstitute 0.25 mg vials with 0.25 ml water and 1.0 mg vials with 1.0 ml water.

Purity: >95% monomer purity as determined by SDS-PAGE and SEC-HPLC.

Endotoxin: 1.0 EU per mg as determined by the LAL method.

Storage: Lyophilized proteins are stable at ambient temperature for at least 2 weeks. If the protein is not to be used immediately then the protein should be stored in lyophilized form at -20 °C for up to 12 months. Once the protein has been reconstituted we recommend

Applications: SPR, BLI, ELISA

Use: Products are for research use only. Not for use in diagnostic or therapeutic procedures.

Suggested H1: Human Fc receptor panel - Biotin

FAQ (Q&A):

Q: What does the biotinylated Human Fc receptor panel contain?

A: It is a matched set of biotin-conjugated recombinant human Fc receptor ectodomains for streptavidin-capture SPR, BLI and ELISA Fc-binding profiling.

Q: Is the biotinylated Human Fc receptor panel in vivo grade and low endotoxin?

A: Yes, each protein is supplied as an ultra-low-endotoxin, in vivo-grade preparation suitable for sensitive capture-based binding assays.

Q: Can the biotinylated Human Fc receptor panel be ordered in bulk?

A: Yes, the panel proteins are manufactured in scalable milligram to gram quantities for high-throughput antibody Fc-binding screens.