Recombinant Human Fcγ RIIIB/CD16b

Catalog Number: 1597-FC/CF

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived Thr20-Gln208, with a C-terminal 10-His tag Accession # O75015
N-terminal Sequence Analysis	Thr20
Predicted Molecular Mass	22.7 kDa

SPECIFICATIONS

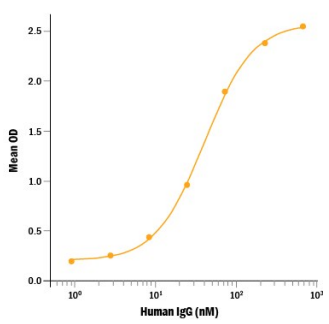
SDS-PAGE	40-60 kDa, reducing conditions
Activity	Measured by its ability to bind human IgG with an estimated K_D <150 nM.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

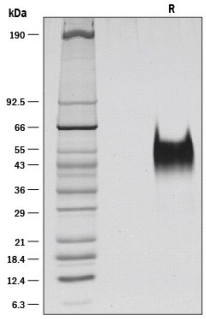
DATA

Binding Activity



Recombinant Human Fcγ RIIIB/CD16b (Catalog # 1597-FC/CF) binds human IgG with an estimated K_d <150 nM.

SDS-PAGE



1 µg/lane of Recombinant Human Fcγ RIIIB/CD16b was resolved with SDS-PAGE under reducing (R) conditions and visualized by silver staining, showing a band at 43-60 kDa.

BACKGROUND

Receptors for the Fc region of IgG (Fcγ R) are members of the Ig superfamily. Based on their genetic organization and molecular structure, three classes of human Fcγ Rs: RI (CD64), RII (CD32), and RIII (CD16), which generate multiple isoforms, are recognized (1 - 3). These receptors function in the activation or inhibition of immune responses. The activating-type receptor either has, or associates non-covalently with an accessory subunit (FcRγ or ζ chain) that has an immunoreceptor tyrosine-based activation motif (ITAM) in its cytoplasmic domain. In contrast, the inhibitory receptor (Fcγ RIIB) has a built-in immunoreceptor tyrosine-based inhibitory motif (ITIM) in its own cytoplasmic domain. Fcγ RI is a high-affinity receptor that binds monomeric IgG. Both Fcγ RII and RIII are low-affinity receptors that bind IgG in the form of immune complexes. Two genes for human Fcγ RIII, A and B, encoding a transmembrane receptor and a glycosylphosphatidylinositol (GPI) anchored protein, respectively, have been identified. Three allelic variants of Fcγ RIIIB, NA-1, NA-2, and SH, exist. A soluble form of Fcγ RIIIB corresponding to the extracellular region of the receptor is produced by proteolytic cleavage and circulates in plasma and other body fluids. The extracellular domains of Fcγ RIIIA and B share 97% amino acid sequence homology. Whereas Fcγ RIIIA is expressed on most effector cells of the immune system including macrophage, monocyte, NK cells, mast cells, eosinophils, dendritic cells and Langerhans cells, Fcγ RIIIB is selectively expressed in neutrophils and eosinophils. Signaling through Fcγ RIIIA results in oxidative burst, cytokine release and phagocytosis by macrophages, antibody-dependent cellular cytotoxicity by natural killer cells and degranulation of mast cells. By contrast, Fcγ RIIIB is a decoy receptor that binds IgG complexes without triggering activation. Soluble Fcγ RIIIB has a regulatory role in inflammatory processes (4). It interacts with complement receptors CR3 and CR4 on monocytes to induce the production of pro-inflammatory cytokines.

References:

1. van de Winkel, J, and P. Capes (1993) Immunol. Today **14**:215.
2. Ravetch, J.V. and S. Bolland (2001) Annu. Rev. Immunol. **19**:275.
3. Takai, T. (2002) Nature Rev. Immunol. **2**:580.
4. Gauchat, G.J. *et al.* (1996) J. Immunol. **157**:1184.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956