Biotinylated Recombinant Human B7-H4 Fc Chimera

Catalog Number: BT11674

DESCRIPTION

Source

Human embryonic kidney cell, HEK293-derived human B7-H4 protein

Human B7-H4 (Phe29-Ala258) Accession # Q7Z7D3	IEGRMD	Human IgG_1 (Pro100-Lys330)

N-terminus C-terminus

N-terminal Sequence Analysis	Phe29
Structure / Form	Disulfide-linked homodimer Biotinylated via amines
Predicted Molecular Mass	52 kDa

SPECIFICATIONS

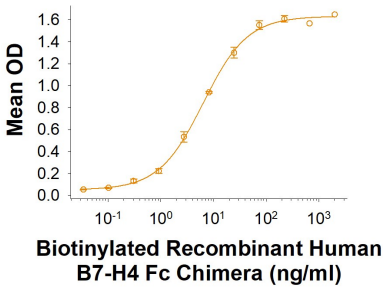
SDS-PAGE	75-95 kDa, under reducing conditions
Activity	Measured by its binding ability in a functional ELISA. Biotinylated Recombinant Human B7-H4 Fc Chimera binds to Human B7-H4 Antibody (Catalog # MAB6576) with an ED_{50} of 1.50-15.0 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, 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 with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 200 µg/mL in water.
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.

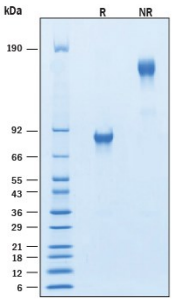
DATA

Binding Activity



Biotinylated Recombinant Human B7-H4 Fc Chimera Protein Binding Activity. Measured by its binding ability in a functional ELISA. Biotinylated Recombinant Human B7-H4 Fc Chimera Protein (Catalog # BT11674) binds to Human B7-H4 Antibody (Catalog # MAB6576) with an ED_{50} of 1.50-15.0 ng/mL.

SDS-PAGE



Biotinylated Recombinant Human B7-H4 Fc Chimera Protein SDS-PAGE. 2 µg/lane of Biotinylated Recombinant Human B7-H4 Fc Chimera Protein (Catalog # BT11674) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 75-95 kDa and 150-190 kDa, respectively.

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BACKGROUND

B7-H4, also known as B7x and B7S1, is a 50-80 kDa glycosylated member of the B7 family of immunomodulatory proteins (1, 2). Mature human B7-H4 consists of a 235 amino acid (aa) extracellular domain (ECD) with one Ig-like V-set domain and one Ig-like C2-set domain, a 21 aa transmembrane segment, and a 2 aa cytoplasmic tail (3-5). Within the ECD, human B7-H4 shares 90% aa sequence identity with mouse and rat B7-H4. It shares 22% - 28% aa sequence identity with human B7-1, B7-2, B7-H1, B7-H2, B7-H3, and PD-L2. Alternate splicing of human B7-H4 generates an additional isoform that lacks the first Ig-like domain. B7-H4 is expressed on the surface of activated lymphocytes, macrophages, monocytes, dendritic cells, epithelial cells, and bone marrow-derived mesenchymal stem cells (4-8). Its binding to activated T cells dampens T cell responses and induces cell cycle arrest in the T cell (3-5). Reverse signaling can induce either cell cycle arrest or apoptosis in the B7-H4 expressing cell (9, 10). B7-H4 is up-regulated in several carcinomas in correlation with tumor progression and metastasis (2, 7, 11, 12). A soluble form of B7-H4 is elevated in the serum of ovarian cancer, renal cell carcinoma, and rheumatoid arthritis patients, also in correlation with advanced disease status (13-15). Soluble B7-H4 functions as a decoy molecule that blocks the inhibitory influence of B7-H4 on immune activation (15). Despite evidence for the involvement of B7-H4 in immune regulation, mice deficient in its expression do not show significant immune deficiencies, suggesting compensation by other molecules *in vivo* (16).

References:

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