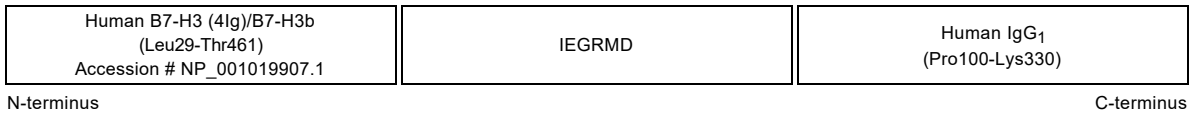
Recombinant Human B7-H3 (4Ig)/B7-H3b Fc Chimera

Catalog Number: 10472-B3

DESCRIPTION

Source

Human embryonic kidney cell, HEK293-derived human B7-H3 protein



N-terminal Sequence Analysis	Leu29
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	73 kDa

SPECIFICATIONS

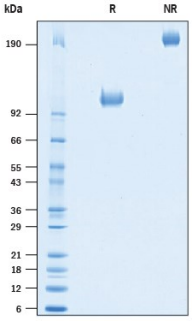
SDS-PAGE	100-120 kDa, under reducing conditions
Activity	Measured by its ability to inhibit anti-CD3 antibody induced IL-2 or IFN-gamma secretion by human T cells. The ED_{50} for this effect is 2-20 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 200 µg/mL in 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

SDS-PAGE



2 µg/lane of Recombinant Human B7-H3 (4Ig)/B7-H3b Fc Chimera Protein (Catalog # 10472-B3) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 100-120 kDa and 200-240 kDa, respectively.

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Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
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BACKGROUND

Human B7 homolog 3 (B7-H3), also known as CD276, is a member of the B7 family of immune checkpoint molecules, responsible for regulating immune responses (1-3). There are at least seven structurally related B7 family members, all sharing about 20-40% amino acid (aa) sequence identity (4). The B7 protein family are immunoglobulin (Ig) superfamily members with varying numbers of Ig-V-like and Ig-C-like regions in the extracellular domain (ECD) and they can either be glycosylphosphatidylinositol (GPI)-linked or transmembrane (4). The mature ECD of B7-H3 contains two V-like and two C-like Ig domains, a transmembrane region, and a short cytoplasmic domain. An isoform of human B7-H3 containing only a single set of V-like and C-like Ig domains in the ECD has also been identified (1, 5). The ECD of both mouse and rat B7-H3 only contain a single set of V-like and C-like Ig domains. Human B7-H3 is not expressed on resting B cells, T cells, monocytes or dendritic cells, but is induced on dendritic cells and monocytes by inflammatory cytokines (1, 6). B7-H3 is also overexpressed in numerous cancers including bladder, breast and melanoma (7). Unlike other B7 family members, human B7-H3 does not bind any known members of the CD28 family of immunoreceptors and its receptor has yet to be identified. However, B7-H3 has been shown to bind an unidentified counter-receptor on activated T cells to costimulate the proliferation of CD4+ or CD8+ T cells (8). B7-H3 has also been found to enhance the induction of primary cytotoxic T lymphocytes and stimulate IFN-gamma production (1-3, 8).

References:

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7. Dong, P. *et al.* (2018) Front Oncol. **8**:264.
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