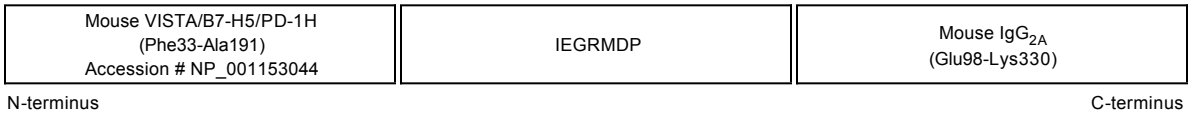
Recombinant Mouse VISTA/B7-H5/PD-1H Fc Chimera

Catalog Number: 7005-B7

DESCRIPTION

Source

Mouse myeloma cell line, NS0-derived



N-terminal Sequence Analysis	Phe33
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	45 kDa (monomer)

SPECIFICATIONS

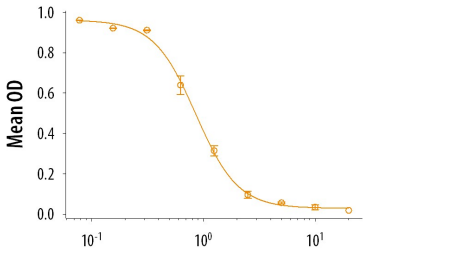
SDS-PAGE	60-70 kDa, reducing conditions
Activity	Measured by its ability to inhibit anti-CD3 antibody induced IL-2 secretion in human T lymphocytes. The ED_{50} for this effect is typically 0.5-3 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE with silver 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 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

Bioactivity



Recombinant Mouse VISTA/B7-H5/PD-1H Fc Chimera (Catalog # 7005-B7) inhibits anti-CD3 antibody-induced IL-2 secretion in human T lymphocytes. The ED_{50} for this effect is typically 0.5-3 µg/mL.

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BACKGROUND

Platelet receptor Gi24, also known as Dies1, VISTA, SISP1 and B7-H5, is a 55-65 kDa transmembrane glycoprotein with homology to B7-like immune co-stimulatory molecules (1, 2). It is distinct from HHLA2 which is also known as B7-H5 (3, 4). Mature mouse Gi24 contains a 159 amino acid (aa) extracellular domain (ECD) with one V-type Ig-like domain, a 21 aa transmembrane segment, and a 97 aa cytoplasmic domain. Within the ECD, mouse Gi24 shares 70% and 78% aa sequence identity with human and rat Gi24, respectively (5). The 30 kDa ECD can be shed by MT1-MMP, with a 25-30 kDa fragment remaining in the membrane (6). Gi24 promotes both MT1-MMP expression and the MT1-MMP mediated activation of MMP-2 (6). Gi24 supports the differentiation of embryonic stem cells (ESC) and enhances BMP-4 induced signaling in ESC, but it is also down-regulated following BMP-4 exposure (7, 8). It binds to BMP-4 directly and also associates with the type I BMP receptor Activin RIB/ALK-4 (7, 8). Gi24 is expressed on the surface of naïve $CD4^+$ T cells and regulatory T cells (5). It is up-regulated *in vivo* on activated monocytes and dendritic cells (8). Gi24 inhibits $CD4^+$ and $CD8^+$ T cell proliferation and their production of IL-2 and IFN-γ (5). Its expression on tumor cells attenuates the anti-tumor immune response and enables more rapid tumor progression (5). In contrast, Gi24 limits disease progression in the autoimmune disease model EAE (5). Gi24 is additionally expressed on mature adipocytes, particularly in fasting mice (9).

References:

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