Recombinant Human LILRB2/CD85d/ILT4

Catalog Number: 8429-T4

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived Gln22-His458, with a C-terminal 6-His tag Accession # Q8N423
N-terminal Sequence Analysis	No results obtained. Gln22 inferred from enzymatic pyroglutamate treatment revealing Thr23
Structure / Form	Monomer
Predicted Molecular Mass	48 kDa

SPECIFICATIONS

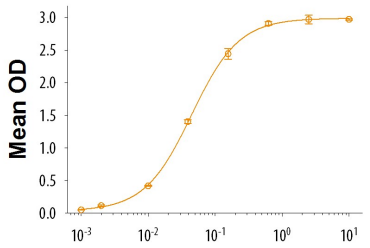
SDS-PAGE	62-72 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human LILRB2/CD85d/ILT4 is coated at 2 µg/mL, Recombinant Human Angiopoietin-like Protein 7/ANGPTL7 (Catalog # 914-AN) binds with a typical ED_{50} of 25-150 ng/mL.
Endotoxin Level	<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.

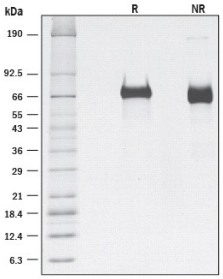
DATA

Bioactivity



When Recombinant Human LILRB2/CD85d/ILT4 (Catalog # 8429-T4) is coated onto a microplate at 2 µg/mL, Recombinant Human Angiopoietin-like 7 Protein (Catalog # 914-AN) binds with a typical ED_{50} of 25-150 ng/mL.

SDS-PAGE



1 µg/lane of Recombinant Human LILRB2/CD85d/ILT4 (Catalog # 8429-T4) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by silver staining, showing bands at 69.9 and 66.8 kDa, respectively.

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BACKGROUND

The immunoglobulin-like transcript (ILT) molecules comprise a family of activating and inhibitory type immunoreceptors whose genes are located in the same locus that encodes killer cell Ig-like receptors (KIR) (1, 2). ILT4, also known as CD85d, LIR-2, and LILRB2, is closely related to mouse PIR-B and is primarily expressed on monocytes, dendritic cells (DC), and neutrophils (3, 4). Mature human ILT4 consists of a 440 amino acid (aa) extracellular domain (ECD) with 4 Ig-like domains, a 21 aa transmembrane segment, and a 116 aa cytoplasmic domain with 3 inhibitory immunoreceptor tyrosine-based inhibitory motifs (ITIMs) (5). The ECD of human ILT4 shares 76% aa identity with chimpanzee ILT4 and 74%, 81%, 33%, 52%, 77%, 61%, and 64% aa identity with human ILT1, 2, 3, 5, 6, 7, and 8, respectively. ILT4 binds to classical MHC I proteins as well as the non-classical HLA-G1 and HLA-F molecules (5-9). It competes with CD8α for MHC I binding but does not compete with KIR2DL1 (7). Ligation of ILT4 induces tyrosine phosphorylation within its cytoplasmic ITIMs, association with SHP-1, and inhibition of stimulatory signaling (3, 6). ILT4 activation promotes the development of tolerogenic dendritic cells and the subsequent induction of regulatory T cells and $CD4^+$ T cell anergy (10-12). Ligation of ILT4 on neutrophils further attenuates immune responses by inhibiting neutrophil phagocytic activity and production of reactive oxygen species (4). ILT4 also binds to multimeric Angiopoietin-like 2, and its ligation supports the expansion of hematopoietic stem cells from cord blood (13). In the brain, ILT4 and mouse PIR-B function as receptors for oligomeric Abeta (1-42) peptide (14).

References:

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