Recombinant Human CD84/SLAMF5

Catalog Number: 1855-CD/CF

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived Lys22-Arg220, with a C-terminal 10-His tag Accession # Q9UIB8.1
N-terminal Sequence Analysis	Lys22
Predicted Molecular Mass	23.6 kDa

SPECIFICATIONS

SDS-PAGE	40-43 kDa, reducing conditions
Activity	Measured in a cell proliferation assay using PHA stimulated human T cells in the presence of anti-CD3. Tangye, S.G. *et al.* (2003) J. Immunol. **171**:2485. The ED_{50} for this effect is 1-4 µg/mL in the presence of anti-CD3 immobilized at least at 20 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. 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.

BACKGROUND

CD84, also known as Ly-9B and SLAMF5, is a type I transmembrane protein in the SLAM subgroup of the CD2 family. SLAM family proteins regulate multiple aspects of immune system function (1). Mature human CD84 consists of a 204 amino acid (aa) extracellular domain (ECD) with two Ig-like domains, a 21 aa transmembrane segment, and a 99 aa cytoplasmic domain with two immunoreceptor tyrosine-based switch motifs (ITSMs) (2, 3). Alternate splicing generates a soluble ECD, an isoform that lacks the first Ig-like domain, and additional isoforms with deletions in the cytoplasmic domain (4). CD84 exhibits homophilic binding which is mediated by the N-terminal Ig-like domain (5). Ligation induces tyrosine phosphorylation in the cytoplasmic ITSMs which then recruit the signaling adaptor molecules SAP (SLAM-associated protein) and EAT-2 (EWS/Fli1-activated transcript 2) (6, 7). CD84 is expressed as a 60-90 kDa molecule with extensive and cell type-specific glycosylation (2, 3, 8). It is widely expressed among hematopoietic cells including hematopoietic stem cells (8), myeloid cells (e.g. macrophages, monocytes, dendritic cells, granulocytes, and mast cells) (3, 6, 8-10), platelets and megakaryocytes (3, 5, 8, 11), and lymphocytes. Within the T cell lineage, CD84 is expressed on thymocytes, $CD4^{-}CD8^{-}$ cells, single positive CD4 or CD8 cells, NKT cells, and on mouse but not human NK cells (5, 6, 8, 9, 12). Within the B cell lineage, it is expressed on pro- and pre-, mature, marginal zone, and memory B cells as well as plasma cells (6, 8, 13). CD84 signaling inhibits Fc epsilon RI-induced mast cell activation (10) but enhances platelet activation (11), LPS-induced macrophage activation (8), T cell proliferation and IFN-γ production (5, 7), and the interactions between T cells and B cells that are required for germinal center formation (14).

References:

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