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# 2B4/CD244

Catalog # PVGS1593

## Product Information

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| **Primary Accession** | Q9BZW8 |
| **Species** | Human |
| **Sequence** | Cys22-Arg221 |
| **Purity** | > 95% as analyzed by SDS-PAGE |
| **Endotoxin Level** | |
| **Biological Activity** | Immobilized SLAMF2 (Mammalian,C-mFc) at 1.0 μg/ml, 2.0 μg/ml(100 μl/well) can bind 2B4/CD244, hFc, Human with $EC_{50}$=48.56 ng/ml, $EC_{50}$=75.13 ng/ml when detected by Mouse Anti Human IgG Fc-HRP. |
| **Expression System** | HEK 293 |
| **Formulation** | Lyophilized from a 0.2 μm filtered solution in PBS. |
| **Reconstitution** | It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in dd$H_2O$ or PBS up to 100 μg/ml. |
| **Storage & Stability** | Upon receiving, this product remains stable for up to 6 months at lower than -70°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. For long term storage it is recommended that a carrier protein (example 0.1% BSA) be added. Avoid repeated freeze-thaw cycles. |

## Additional Information

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| **Gene ID** | 51744 |
| **Other Names** | Natural killer cell receptor 2B4, NK cell activation-inducing ligand, NAIL, NK cell type I receptor protein 2B4, NKR2B4, h2B4, SLAM family member 4, SLAMF4, Signaling lymphocytic activation molecule 4, CD244, CD244, 2B4 |
| **Target Background** | CD244 (Cluster of Differentiation 244) is a human protein encoded by the CD244 gene. It is also known as Natural Killer Cell Receptor 2B4. This gene encodes a cell surface receptor expressed on natural killer cells (NK cells) (and some T cells) mediating non-major histocompatibility complex (MHC) restricted killing. The interaction between NK-cell and target cells via this receptor is thought to modulate NK-cell cytolytic activity. Alternatively spliced transcript variants encoding different isoforms have been found for this gene. CD244 can also be expressed on non-lymphocytes such as eosinophils, mast cells and dendritic cells. |

## Protein Information

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| **Name** | CD244 |
| **Synonyms** | 2B4 |
| **Function** | Heterophilic receptor of the signaling lymphocytic activation molecule (SLAM) family; its ligand is CD48. SLAM receptors triggered by homo- or heterotypic cell-cell interactions are modulating the activation and differentiation of a wide variety of immune cells and thus are involved in the regulation and interconnection of both innate and adaptive immune response. Activities are controlled by presence or absence of small cytoplasmic adapter proteins, SH2D1A/SAP and/or SH2D1B/EAT-2. Acts as activating natural killer (NK) cell receptor (PubMed:10359122, PubMed:11714776, PubMed:8376943). Activating function implicates association with SH2D1A and FYN (PubMed:15713798). Downstreaming signaling involves predominantly VAV1, and, to a lesser degree, INPP5D/SHIP1 and CBL. Signal attenuation in the absence of SH2D1A is proposed to be dependent on INPP5D and to a lesser extent PTPN6/SHP-1 and PTPN11/SHP-2 (PubMed:10934222, PubMed:15713798). Stimulates NK cell cytotoxicity, production of IFN-gamma and granule exocytosis (PubMed:11714776, PubMed:8376943). Optimal expansion and activation of NK cells seems to be dependent on the engagement of CD244 with CD48 expressed on neighboring NK cells (By similarity). Acts as costimulator in NK activation by enhancing signals by other NK receptors such as NCR3 and NCR1 (PubMed:10741393). At early stages of NK cell differentiation may function as an inhibitory receptor possibly ensuring the self-tolerance of developing NK cells (PubMed:11917118). Involved in the regulation of CD8(+) T-cell proliferation; expression on activated T-cells and binding to CD48 provides costimulatory-like function for neighboring T-cells (By similarity). Inhibits inflammatory responses in dendritic cells (DCs) (By similarity). |
| **Cellular Location** | Membrane; Single- pass type I membrane protein. Cell membrane. Membrane raft Note=Receptor engagement results in a recruitment to lipid drafts essential for the subsequent tyrosine phosphorylation of the ITSMs |
| **Tissue Location** | Expressed in spleen, PBL, followed by lung, liver, testis and small intestine. Expressed in all natural killer (NK) cells, monocytes and basophils, TCR-gamma/delta+ T-cells, monocytes, basophils, and on a subset of CD8(+) T-cells |