

DESCRIPTION

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|---------------------------------|---|--------|---|
| Source | Chinese Hamster Ovary cell line, CHO-derived human CD45RO protein | | |
| | Human CD45RO (Gln24-Lys391) Accession # BAF84820.1 | IEGRMD | Human IgG ₁ (Pro100-Lys330) |
| | N-terminus | | C-terminus |
| Predicted Molecular Mass | 71 kDa | | |

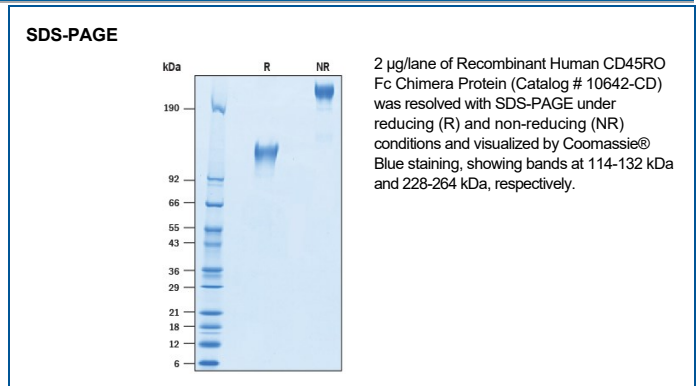
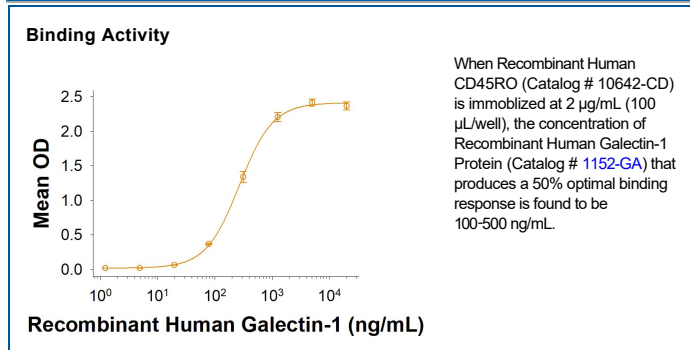
SPECIFICATIONS

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|------------------------|--|
| SDS-PAGE | 114-132 kDa, under reducing conditions |
| Activity | Measured by its binding ability in a functional ELISA. When Recombinant Human CD45RO (Catalog # 10642-CD) is immobilized at 2 µg/mL (100 µL/well), the concentration of Recombinant Human Galectin-1 Protein (Catalog # 1152-GA) that produces a 50% optimal binding response is found to be 100-500 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

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|--------------------------------|---|
| Reconstitution | Reconstitute at 250 µg/mL in PBS. |
| Shipping | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. |
| Stability & Storage | <p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 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



BACKGROUND

CD45, previously called LCA (leukocyte common antigen), T200, or Ly5 in mice, is member C of the class 1 (receptor-like) protein tyrosine phosphatase family (PTPRC) (1, 2). It is a variably glycosylated 180-220 kDa transmembrane protein that is abundantly expressed on all nucleated cells of hematopoietic origin (1-3). Multiple splicing isoforms of exon 4 (A), 5 (B), and 6 (C) are expressed according to cell type, developmental stage and antigenic exposure (1-5). The longest form, CD45RABC (called B220 in mouse) is expressed on B lymphocytes. The shortest form, CD45R0, lacking exons 4, 5 and 6 which encode aa 34-194, is expressed on memory cells, while intermediate sizes are expressed on other T cells (3, 4, 6). Human CD45 has a 40% and 41% sequence identity with mouse and rat respectively. The CD45R0 cDNA encodes 1145 amino acids (aa), including a 25 aa signal sequence, a 391 aa extracellular domain, 21 aa transmembrane sequence, and a 708 aa cytoplasmic domain that contains two phosphatase domains, D1 and D2. Only D1 has phosphatase activity. CD45 has been best studied in T cells, where it determines T cell receptor signaling thresholds (3, 6-8). CD45 is moved into or out of the immunological synapse (IS) membrane microdomain depending on the relative influence of interaction with the extracellular galectin lattice or the intracellular actin cytoskeleton (9, 10). Galectin interaction can be fine-tuned by varying usage of the heavily O-glycosylated spliced regions and sialylation of N-linked carbohydrates (4, 9). Within the IS, CD45 dephosphorylates and negatively regulates the Src family kinase, Lck (8-10). In other leukocytes, CD45 influences differentiation and links immunoreceptor signaling with cytokine secretion and cell survival, partially overlapping in function with DEP-1/CD148 (11-14). CD45 deletion causes severe immunodeficiency, while point mutations may be associated with autoimmune disorders (6, 7).

References:

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