Recombinant Human CD160

Catalog Number: 6177-CD

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived Ile27-Ser159, with a C-terminal 6-His tag Accession # O95971
N-terminal Sequence Analysis	Ile27
Predicted Molecular Mass	15.6 kDa

SPECIFICATIONS

SDS-PAGE	22-30 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When recombinant mouse HVEM Fc Chimera (Catalog # 2516-HV) is immobilized at 0.5 µg/mL, 100 µL/well, the concentration of recombinant human CD160 that produces 50% of the optimal binding response is found to be approximately 0.1 - 0.6 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 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.

BACKGROUND

CD160 (also Natural killer cell receptor BY55) is a 27 - 30 kDa member of the Ig superfamily (1 - 4). In human, it is expressed principally on nonmyeloid hematopoietic cells. These include $CD56^{DIM}CD16+$ cytolytic NK cells, CD8+CD28- T cells, CD8+CD101+ IELs, NKT cells, γδ TCR T cells, activated CD4+ T cells, and vascular endothelial cells (1, 5 - 7). CD160 was initially identified as a GPI-linked glycoprotein (3). It is synthesized as a preproprotein that is 181 amino acids (aa) in length. The precursor contains a 26 aa signal sequence, a 133 aa mature molecule that shows one 96 aa V-type Ig-like domain (aa 27 - 122), and a 22 aa prosegment that is cleaved to generate a GPI-linkage at Ser159. GPI-linked CD160 is known to be cleaved by phospholipases and these generate an 80 kDa (presumably trimeric) band in SDS-PAGE (1, 8). Alternative splice forms for CD160 are reported to exist on activated NK cells. The principal variant is an extended type I transmembrane (TM) protein that shows a 55 aa substitution for the C-terminal two amino acids. It contains a 23 aa TM segment (aa 160 - 182) and a 52 aa cytoplasmic region. Two other variants show deletions of the Ig-like domain in both the GPI-linked and TM form (9). Mature human CD160 shares 62% aa identity with mouse CD160.

CD160 is known to bind to HLA-G1, HLA-C, and HVEM (6, 9, 10). And upon engagement, it is reported to associate with CD2 in *cis* under certain conditions (11, 12). The effects of CD160 ligation appear to be context dependent. When expressed on endothelial cells, CD160 binding to HLA-G1 initiates apoptosis, and thus impacts angiogenesis (6). When expressed on $CD56^{DIM}$ NK cells, CD160 signaling in response to HLA-C binding promotes IFN-γ, TNF-α, and IL-6 secretion (10). And when up-regulated on CD4+ T cells following activation, CD160 engagement by HVEM (expressed by APC) serves to block a simultaneous LIGHT stimulation of HVEM that promotes receptor expression and cytokine release (1, 2, 7, 13).

References:

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