Recombinant Human Integrin αXβ2
Catalog Number: 5755-AX

DESCRIPTION

Source
Chinese Hamster Ovary cell line, CHO-derived

Human Integrin αX
(Phe20-Pro1107) Accession # P20702
Acidic Tail 6-His tag

Human Integrin β2
(Gln23-Asn700) Accession # AAA59490
Basic Tail

N-terminal Sequence Analysis
Phe20 (αX) & Gln23: predicted, no results obtained (β2)

Predicted Molecular Mass
128.9 kDa (αX) & 83.1 kDa (β2)

SPECIFICATIONS

SDS-PAGE
149 kDa & 103 kDa, reducing conditions

Activity
Measured by the ability of the immobilized protein to support adhesion of J45.01 human acute lymphoblastic leukemia T lymphocytes. When 5 x 10^4 cells are added to Recombinant Human Integrin αXβ2 coated plates (10 μg/mL, 100 μL/well), more than 50% will adhere after 1 hour at 37 °C.

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 μL/mL filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution
Reconstitute at 200 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

Integrin αXβ2, also called CD11c/CD18, p150/95 or complement receptor type 4 (CR4), is one of four β2 integrins. The non-covalent heterodimer of 150 kDa αX/CD11c and 95 kDa β2/CD18 integrin subunits is expressed on macrophages, dendritic cells and hairy cell leukemias, with lower amounts on other myeloid cells and activated B, NK and some cytotoxic T cells (1-7). Like other integrins, αXβ2 has multiple activation states (3). In the presence of divalent cations and "inside-out" signaling, αβ2 is fully active and extended. The αX vWFA or I-domain, which contains the adhesion sites, forms the N-terminal head region with the αX beta-propeller and the β2 vWFA domain (1, 8). In the inactive state, the heterodimer flexes in the center at the αX thigh and calf domains and β2 I-EGF domains, impeding access to adhesion sites (1). The 1088 aa human αX/CD11c ECD shares 70-76% aa sequence identity with mouse, rat and canine αX/CD11c and 95% with mouse, rat, cow, dog, goat, sheep, and pig β2. Potential αX isoforms containing 719 and 725 aa (as compared to full-length 1163 aa αX) lack the vWFA domain and the N-terminus. Active αβ2 shares some adhesion partners with αMβ2/CD11b/CD18, including complement opsonin fragment iC3b, ICAMs, vWF and fibrinogen, and is expressed on many of the same cells (4-11). However, αXβ2 activity is often constitutive, while αβ2 activity requires cell activation (4-7). αβ2 also binds osteopontin, Thy-1, plasminogen, heparin, and proteins with abnormally exposed acidic residues (11-16). The adhesion events are important for proliferation, degranulation, chemotactic migration, and phagocytosis of complement-opsonized particles (5, 6, 9, 11, 12, 16). Mutations of β2, especially in the vWFA domain, cause leukocyte adhesion deficiency (LAD-1) and susceptibility to bacterial infections (17).

References:

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