

Background

Integrin α X β 2, also called CD11c/CD18, p150/95 or complement receptor type 4 (CR4), is one of four β 2 integrins. The non-covalent heterodimer of 150 kDa α X/CD11c and 95 kDa β 2/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, α X β 2 has multiple activation states (3). In the presence of divalent cations and "inside-out" signaling, α X β 2 is fully active and extended. The α X vWFA or I-domain, which contains the adhesion sites, forms the N-terminal head region with the α X beta-propeller and the β 2 vWFA domain (1, 8). In the inactive state, the heterodimer flexes in the center at the α X thigh and calf domains and β 2 I-EGF domains, impeding access to adhesion sites (1). The 1088 aa human α X/CD11c ECD shares 70 - 76% aa sequence identity with mouse, rat and canine α X while the 678 aa human β 2/CD18 ECD shares 81 - 83% aa sequence identity with mouse, rat, cow, dog, goat, sheep, and pig β 2. Potential α X isoforms containing 719 and 725 aa (as compared to full-length 1163 aa α X) lack the vWFA domain and the N-terminus. Active α X β 2 shares some adhesion partners with α M β 2/CD11b/CD18, including complement opsonin fragment iC3b, ICAMs, vWF and fibrinogen, and is expressed on many of the same cells (4 - 11). However, α M β 2 activity is often constitutive, while α X β 2 activity requires cell activation (4 - 7). α X β 2 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 β 2, especially in the vWFA domain, cause leukocyte adhesion deficiency (LAD-1) and susceptibility to bacterial infections (17).

References:

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Description

Source	Chinese Hamster Ovary cell line, CHO-derived		
	Human Integrin α X (Phe20 - Pro1107) Accession # P20702	Acidic Tail	6-His tag
N-terminal Sequence Analysis	Human Integrin β 2 (Gln23 - Asn700) Accession # P05107	Basic Tail	
	N-terminus		C-terminus
Predicted Molecular Mass	128.9 kDa (α X) & 83.1 kDa (β 2)		

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 T lymphoblastic leukemia cells. When 5 x 10 ⁴ cells are added to rhIntegrin α X β 2 coated plates (10 μ g/mL, 100 μ L/well), approximately 50% - 80% will adhere after 1 hour at 37 °C.
Endotoxin Level	<1.0 EU per 1 μ g 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 μ m filtered solution in PBS. See Certificate of Analysis for details.

Preparation and Storage

Reconstitution	Reconstitute at 200 μ g/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. <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.

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NOT FOR USE IN HUMANS