

Background

CXADR (coxsackie and adenovirus receptor), also known as CAR, is a 46 kDa type I transmembrane glycoprotein that belongs to the CTX family of the Ig superfamily (1 - 3). CXADR has received attention as a receptor that facilitates gene transfer mediated by most adenoviruses (1, 2). It is also an adhesion molecule within junctional complexes, notably between epithelial cells lining body cavities and within myocardial intercalated discs (1, 2, 4). CXADR is essential for normal cardiac development in the mouse (7). It is expressed throughout brain neuroepithelium during development, but mainly in ependymal cells in the adult (4 - 6). The 365 amino acid (aa) human CXADR contains a 19 aa signal sequence, a 218 aa extracellular domain (ECD) with a V-type (D1) and a C2-type (D2) Ig-like domain, a 21 aa transmembrane segment and a 107 aa intracellular domain. D1 is thought to be responsible for homodimer formation in trans within tight junctions (2). The fiber knob of adenoviruses attaches at a similar site, and evidence suggests that disruption of tight junctions facilitates virus binding (1, 2). The C-terminus interacts with several cytoplasmic junctional proteins, microtubules and the actin cytoskeleton (1, 8, 9). The ECD of human CXADR shares 90% aa sequence identity with mouse, rat, and porcine CXADR, and 92% and 89% aa identity with bovine and canine CXADR, respectively. An alternately spliced isoform (CXADR2) that diverges in the C-terminal 15 aa shows a similar expression pattern (4, 10). Transcription of splice variants that produce soluble forms of CXADR has been detected, and secreted forms in serum and pleural fluid potentially block viral infection (11).

References:

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Description

Source	Murine myeloma cell line, NS0-derived		
	Human CXADR (Leu20 - Gly237) Accession # P78310	IEGRMD	Human IgG ₁ (Pro100 - Lys330)
	N-terminus		C-terminus
N-terminal Sequence Analysis	Leu20		
Structure / Form	Disulfide-linked homodimer		
Predicted Molecular Mass	50.6 kDa (monomer)		

Specifications

SDS-PAGE	60 - 65 kDa, reducing conditions
Activity	Measured by the ability of the immobilized protein to support the adhesion of human monocyte-derived dendritic cells. When 5 x 10 ⁴ cells/well are added to rhCXADR/Fc coated plates (10 µg/mL), approximately 25% - 45% will adhere after 30 minutes of incubation at 37° C. Optimal dilutions should be determined by each laboratory for each application.
Endotoxin Level	<1.0 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 100 µg/mL in sterile 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.

11/24/2009

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