PRODUCT INFORMATION

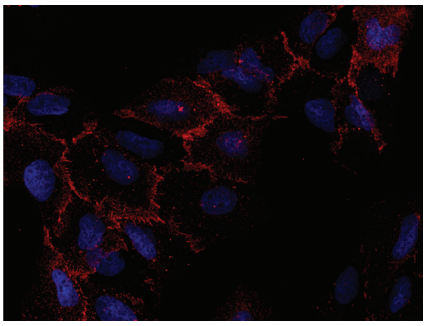
CXADR Rabbit Monoclonal Antibody (Clone 271)

Item No. 38084

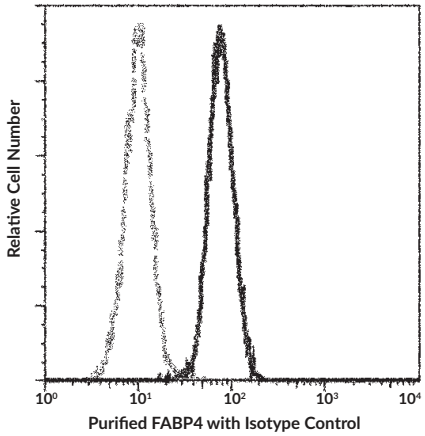
Overview and Properties

Contents:	This vial contains 50, 100 µl, or 1 ml of protein A-affinity purified monoclonal antibody.
Synonyms:	CAR, Coxsackievirus and Adenovirus Receptor, CXADR Ig-like Adhesion Molecule
Immunogen:	Recombinant human CXADR
Cross Reactivity:	(+) CXADR
Species Reactivity:	(+) Human; other species not tested
Form:	Liquid
Storage:	-80°C (as supplied)
Stability:	≥1 year
Storage Buffer:	0.2 µm filtered solution in PBS
Clone:	271
Host:	Rabbit
Isotype:	IgG
Applications:	ELISA, Flow cytometry (FC), Immunocytochemistry (ICC), and Immunofluorescence (IF); the recommended starting dilution is 1:1,000-1:10,000 for ELISA, 1:25-1:100 for FC, and 1:20-1:100 for ICC and IF. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



Immunofluorescent staining of human CXADR in U2OS cells. Cells were fixed with 4% paraformaldehyde (PFA), permeabilized with 0.3% Triton X-100 in PBS, blocked with 10% serum, and incubated with CXADR Rabbit Monoclonal Antibody (Clone 271) (1:60) at 4°C overnight. Then cells were stained with an Alexa Fluor® 594-conjugated goat anti-rabbit IgG secondary antibody (red) and counterstained with DAPI (blue). Positive staining was localized to the cell membrane.



Flow cytometric analysis of CXADR Rabbit Monoclonal Antibody (Clone 271) in HT-29 cells. Cells were labeled with purified CXADR Rabbit Monoclonal Antibody followed by a FITC-conjugated secondary antibody. The fluorescence histogram was derived from gated events with the forward and side light-scatter characteristics of intact cells.

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Description

Coxsackievirus and adenovirus receptor (CXADR) is a type I transmembrane glycoprotein with roles in forming cellular tight junctions, spermatogenesis, and viral infection.[1,2] Alternative splicing of *CXADR* generates three soluble isoforms, CXADR4/7, CXADR3/7, and CXADR2/7, and two membrane-bound isoforms, CXADR1 and CXADR2.[1] Membrane-bound isoforms of CXADR are composed of an extracellular domain containing two immunoglobulin-like (Ig-like) domains, a transmembrane domain, and an intracellular domain, which varies by isoform, is subject to post-translational modification, and contains a PDZ-binding motif, clathrin-adaptor protein recognition motif, and sorting motif. They function as major viral receptors for adenovirus species A and C-G and group B coxsackieviruses. Soluble isoforms of CXADR lack the transmembrane domain but also interact with both coxsackieviruses and adenoviruses. CXADR also functions as a cell junction component, interacting with various tight and adherens junction proteins to regulate barrier permeability, cell adhesion, and cell migration. Knockdown of *CXADR* in Sertoli cells compromises the blood-testis barrier, as well as induces germ cell apoptosis and premature loss of spermatids in mice.[3] Endomyocardial *CXADR* expression is increased and positively correlated with IL-6 levels in patients with dilated cardiomyopathy.[4] Cayman's CXADR Rabbit Monoclonal Antibody (Clone 271) can be used for ELISA, flow cytometry (FC), immunocytochemistry (ICC), and immunofluorescence (IF) applications.

References

1. Molecular Mechanisms in Spermatogenesis. *Advances in Experimental Medicine and Biology*. Cheng, C.Y and Sun, F., editors, 2nd ed., *Springer Nature*, Switzerland (2022).
2. Kobayashi, T., Matsugo, H., Maruyama, J., *et al.* Characterization of a novel species of adenovirus from Japanese microbat and role of CXADR as its entry factor. *Sci. Rep.* **9(1)**, 573 (2019).
3. Zhang, Y. and Lui, W.-Y. CXADR: From an essential structural component to a vital signaling mediator in spermatogenesis. *Int. J. Mol. Sci.* **24(2)**, 1288 (2023).
4. Gupalo, E.M., Buryachkovskaya, L.I., Chumachenko, P.V., *et al.* Implication of inflammation on Coxsackie virus and Adenovirus receptor expression on cardiomyocytes and the role of platelets in patients with dilated cardiomyopathy. *Cardiovasc. Pathol.* **60**, 107452 (2022).

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