

CAR (A-10): sc-365836

BACKGROUND

The coxsackie and adenovirus receptor (CAR) mediates viral infection by the binding of various adenoviruses through specific protein interactions. There is a high affinity between the viral knob domain and the extracellular amino-terminal domain (designated D1) of CAR. The D1 domain alone is sufficient for knob binding in transfected cells. Determining the specific interactions between CAR and adenoviruses is imperative in order to further develop gene therapy using viral hosts. CAR is expressed in many human and murine cell types. However, cells that express CAR at low levels are not efficiently infected by adenoviruses. Possible methods of avoiding this problem in certain cell types are by either supplementing CAR or modifying the Ad knob to bind to other receptors.

REFERENCES

1. Dmitriev, I., et al. 1998. An adenovirus vector with genetically modified fibers demonstrates expanded tropism via utilization of a coxsackievirus and adenovirus receptor-independent cell entry mechanism. *J. Virol.* 72: 9706-9713.
2. Roelvink, P.W., et al. 1999. Identification of a conserved receptor-binding site on the fiber proteins of CAR-recognizing adenoviridae. *Science* 286: 1568-1571.
3. Bewley, M.C., et al. 1999. Structural analysis of the mechanism of adenovirus binding to its human cellular receptor, CAR. *Science* 286: 1579-1583.
4. Freimuth, P., et al. 1999. Coxsackievirus and adenovirus receptor amino-terminal immunoglobulin V-related domain binds adenovirus type 2 and fiber knob from adenovirus type 12. *J. Virol.* 73: 1392-1398.
5. Hidaka, C., et al. 1999. CAR-dependent and CAR-independent pathways of adenovirus vector-mediated gene transfer and expression in human fibroblasts. *J. Clin. Invest.* 103: 579-587.
6. Kirby, I., et al. 2000. Identification of contact residues and definition of the CAR-binding site of adenovirus type 5 fiber protein. *J. Virol.* 74: 2804-2813.

CHROMOSOMAL LOCATION

Genetic locus: CXADR (human) mapping to 21q21.1; Cxadr (mouse) mapping to 16 C3.1.

SOURCE

CAR (A-10) is a mouse monoclonal antibody raised against amino acids 1-300 of CAR of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

CAR (A-10) is recommended for detection of CAR of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CAR siRNA (h): sc-29906, CAR siRNA (m): sc-39919, CAR shRNA Plasmid (h): sc-29906-SH, CAR shRNA Plasmid (m): sc-39919-SH, CAR shRNA (h) Lentiviral Particles: sc-29906-V and CAR shRNA (m) Lentiviral Particles: sc-39919-V.

Molecular Weight of CAR: 46 kDa.

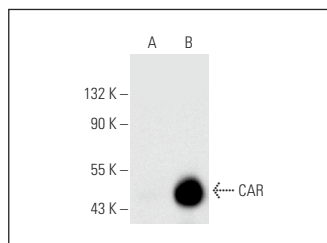
Positive Controls: mouse liver extract: sc-2256, HeLa whole cell lysate: sc-2200 or CAR (h): 293T Lysate: sc-159755.

RECOMMENDED SUPPORT REAGENTS

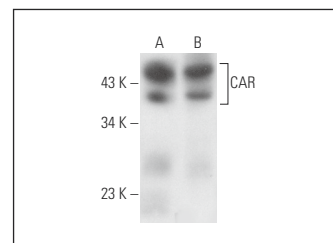
To ensure optimal results, the following support reagents are recommended:

- 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.
- 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).
- 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



CAR (A-10): sc-365836. Western blot analysis of CAR expression in non-transfected: sc-117752 (A) and human CAR transfected: sc-159755 (B) 293T whole cell lysates.



CAR (A-10): sc-365836. Western blot analysis of CAR expression in HeLa whole cell lysate (A) and mouse liver tissue extract (B).

RESEARCH USE

For research use only, not for use in diagnostic procedures.



See **CAR (E-1): sc-373791** for CAR antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.