

CAR (h): 293T Lysate: sc-159755

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., Krasnykh, V., Miller, C.R., Wang, M., Kashentseva, E., Mikheeva, G., Belousova, N. and Curiel, D.T. 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., Mi Lee, G., Einfeld, D.A., Kovesdi, I. and Wickham, T.J. 1999. Identification of a conserved receptor-binding site on the fiber proteins of CAR-recognizing adenoviridae. *Science* 286: 1568-1571.
3. Bewley, M.C., Springer, K., Zhang, Y.B., Freimuth, P. and Flanagan, J.M. 1999. Structural analysis of the mechanism of adenovirus binding to its human cellular receptor, CAR. *Science* 286: 1579-1583.
4. Freimuth, P., Springer, K., Berard, C., Hainfeld, J., Bewley, M. and Flanagan, J. 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., Milano, E., Leopold, P.L., Bergelson, J.M., Hackett, N.R., Finberg, R.W., Wickham, T.J., Kovesdi, I., Roelvink, P. and Crystal, R.G. 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., Davison, E., Beavil, A.J., Soh, C.P., Wickham, T.J., Roelvink, P.W., Kovesdi, I., Sutton, B.J. and Santis, G. 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.

PRODUCT

CAR (h): 293T Lysate represents a lysate of human CAR transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

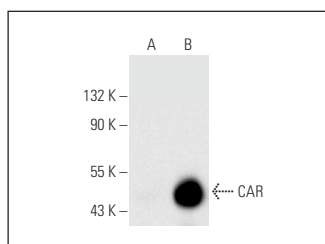
APPLICATIONS

CAR (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive CAR antibodies.

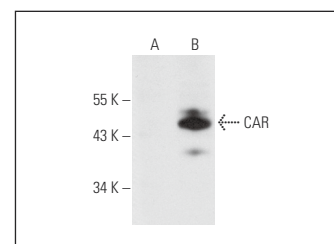
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

CAR (A-10): sc-365836 is recommended as a positive control antibody for Western Blot analysis of enhanced human CAR expression in CAR transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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 (E1-1): sc-56892. Western blot analysis of CAR expression in non-transfected: sc-117752 (A) and human CAR transfected: sc-159755 (B) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.