SANTA CRUZ BIOTECHNOLOGY, INC.

CAR (H-300): sc-15405

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. 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.
2. Bewley, M.C., et al. 1999. Structural analysis of the mechanism of adenovirus binding to its human cellular receptor, CAR. Science 286: 1579-1583.

CHROMOSOMAL LOCATION

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

SOURCE

CAR (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 of CAR of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

CAR (H-300) is recommended for detection of CAR of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

CAR (H-300) is also recommended for detection of CAR in additional species, including equine, canine and porcine.

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.

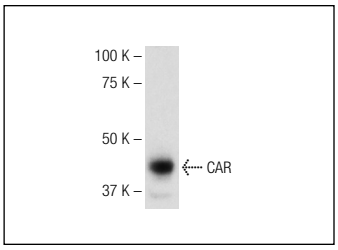
Molecular Weight of CAR: 46 kDa.

Positive Controls: mouse liver extract: sc-2256, HeLa whole cell lysate: sc-2200 or mouse brain extract: sc-2253.

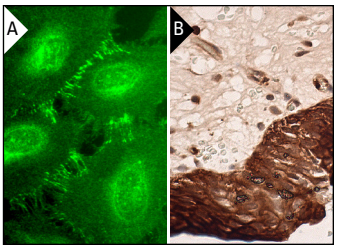
STORAGE

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

DATA



CAR (H-300): sc-15405. Western blot analysis of CAR expression in mouse liver tissue extract.



CAR (H-300): sc-15405. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane and cell junction localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing membrane and cytoplasmic staining of urothelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Kalinichenko, V.V., et al. 2004. FOXM1b transcription factor is essential for development of hepatocellular carcinomas and is negatively regulated by the p19ARF tumor suppressor. Genes Dev. 18: 830-850.
2. Lewis, T.B., et al. 2010. Transduction of brain dopamine neurons by adenoviral vectors is modulated by CAR expression: rationale for tropism modified vectors in PD gene therapy. PLoS ONE 5: e12672.
3. Xiao, X., et al. 2011. c-Yes regulates cell adhesion at the blood-testis barrier and the apical ectoplasmic specialization in the seminiferous epithelium of rat testes. Int. J. Biochem. Cell Biol. 43: 651-665.
4. Lie, P.P., et al. 2011. Interleukin-1α is a regulator of the blood-testis barrier. FASEB J. 25: 1244-1253.
5. Su, L., et al. 2011. P-glycoprotein regulates blood-testis barrier dynamics via its effects on the occludin/zonula occludens 1 (ZO-1) protein complex mediated by focal adhesion kinase (FAK). Proc. Natl. Acad. Sci. USA 108: 19623-19628.
6. Gye, M.C., et al. 2011. Expression of coxsackievirus and adenovirus receptor isoforms in developing mouse bladder uroepithelium. Urology 77: 1009.e9-1009.e18.

RESEARCH USE

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