Revision 4

Store at -20C

#16984

CAR (D3W3G) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP, IHC-P, IF-IC	H	Endogenous	45-55	Rabbit IgG	#P78310	1525

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100
Immunohistochemistry (Paraffin)	1:500
Immunofluorescence (Immunocytochemistry)	1:200

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

For a carrier free (BSA and azide free) version of this product see product #74159.

Specificity/Sensitivity

CAR (D3W3G) Rabbit mAb recognizes endogenous levels of total CAR protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Arg328 of human CAR protein.

Background

The coxsackie virus and adenovirus receptor (CXADR, CAR) is a highly conserved, single-transmembrane glycoprotein and the primary receptor to mediate cellular attachment and infection of coxsackie B viruses and most adenoviruses (1,2). The CAR protein contains a pair of Ig-like domains within the amino-terminal extracellular domain and a carboxyl-terminal PDZ motif (1). Research studies indicate that CAR is a tight junction protein that associates with the ZO-1 scaffold protein and promotes both cell adhesion and restriction of solute and ion movement between cells (2). Endogenous CAR is targeted to the basolateral plasma membrane by a tyrosine-based basolateral sorting signal and clathrin adaptors AP-1A and AP-1B (3). CAR binds junctional adhesion molecule L (JAML) on epithelial cells and neutrophils where it activates PI3K and downstream MAPK kinases to stimulate epithelial γδ T cell proliferation and increase production of TNFα and keratinocyte growth factor (4-6). As a result, the CAR protein plays a potentially critical role in adenoviral gene therapy, immunity, wound repair, inflammation, and cancer therapy (4-6). Additional studies demonstrate that CAR is essential in regulating squamous carcinoma cell growth (7).

Background References

1. Bergelson, J.M. et al. (1997) *Science* 275, 1320-3.
2. Cohen, C.J. et al. (2001) *Proc Natl Acad Sci U S A* 98, 15191-6.
3. Carvajal-Gonzalez, J.M. et al. (2012) *Proc Natl Acad Sci U S A* 109, 3820-5.
4. Zen, K. et al. (2005) *Mol Biol Cell* 16, 2694-703.
5. Witherden, D.A. et al. (2010) *Science* 329, 1205-10.
6. Verdino, P. et al. (2010) *Science* 329, 1210-4.
7. Saito, K. et al. (2014) *Oncogene* 33, 1274-86.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation **IHC-P:** Immunohistochemistry (Paraffin) **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: Human

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