SANTA CRUZ BIOTECHNOLOGY, INC.

RAGE (A-9): sc-365154

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Advanced glycosylation end products of proteins (AGEs) are nonenzymatically glycosylated proteins that are associated with a variety of conditions including diabetes and other vascular disorders, as well as amyloidosis. These proteins regulate cellular functions via specific cell surface acceptor molecules, such as RAGE (receptor for advanced glycosylation end products). RAGE is a type 1 membrane protein that is found on the surface of endothelial cells, mononuclear phagocytes and vascular smooth muscle cells. Binding of AGEs to RAGE results in the induction of cellular oxidant stress and activation of the transcription factor NFκB. Evidence suggests that the induction of oxidant stress results in the activation of an intracellular cascade involving p21 Ras and MAP kinase, which leads to activation of transcription.

REFERENCES

1. Neeper, M., et al. 1992. Cloning and expression of a cell surface receptor for advanced glycosylation end products of proteins. J. Biol. Chem. 267: 14998-15004.
2. Yan, S.D., et al. 1994. Enhanced cellular oxident stress by the interaction of advanced glycation end products with their receptors/binding proteins. J. Biol. Chem. 269: 9889-9897.
3. Schmidt, A.M., et al. 1996. RAGE: a novel cellular receptor for advanced glycation end products. Diabetes 45: S77-S80.

CHROMOSOMAL LOCATION

Genetic locus: AGER (human) mapping to 6p21.32; Ager (mouse) mapping to 17 B1.

SOURCE

RAGE (A-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 23-43 at the N-terminus of RAGE of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RAGE (A-9) is available conjugated to agarose (sc-365154 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365154 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365154 PE), fluorescein (sc-365154 FITC), Alexa Fluor® 488 (sc-365154 AF488), Alexa Fluor® 546 (sc-365154 AF546), Alexa Fluor® 594 (sc-365154 AF594) or Alexa Fluor® 647 (sc-365154 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365154 AF680) or Alexa Fluor® 790 (sc-365154 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365154 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

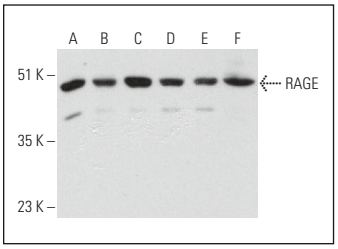
RAGE (A-9) is recommended for detection of RAGE of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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).

Suitable for use as control antibody for RAGE siRNA (h): sc-36374, RAGE siRNA (m): sc-36375, RAGE siRNA (r): sc-106985, RAGE shRNA Plasmid (h): sc-36374-SH, RAGE shRNA Plasmid (m): sc-36375-SH, RAGE shRNA Plasmid (r): sc-106985-SH, RAGE shRNA (h) Lentiviral Particles: sc-36374-V, RAGE shRNA (m) Lentiviral Particles: sc-36375-V and RAGE shRNA (r) Lentiviral Particles: sc-106985-V.

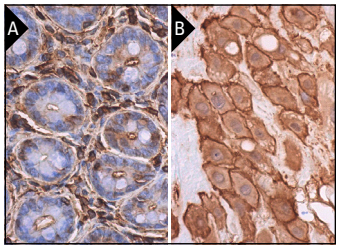
Molecular Weight of RAGE: 46 kDa.

Positive Controls: A549 cell lysate: sc-2413, ECV304 cell lysate: sc-2269 or HeLa whole cell lysate: sc-2200.

DATA



RAGE (A-9) HRP: sc-365154 HRP. Direct western blot analysis of RAGE expression in A549 (**A**), OVCAR-3 (**B**), ECV304 (**C**), HeLa (**D**), IMR-32 (**E**) and MCF7 (**F**) whole cell lysates.



RAGE (A-9): sc-365154. Immunoperoxidase staining of formalin fixed, paraffin-embedded human colon tissue showing cytoplasmic staining of glandular cells and endothelial cells and membrane and cytoplasmic staining of Interstitial cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing membrane and cytoplasmic staining of decidual cells (**B**).

SELECT PRODUCT CITATIONS

1. Zhu, Y., et al. 2011. Inhibition of the receptor for advanced glycation endproducts (RAGE) protects pancreatic β-cells. Biochem. Biophys. Res. Commun. 404: 159-165.
2. Cappelletti, C., et al. 2019. Aging-associated genes and let-7 microRNAs: a contribution to myogenic program dysregulation in oculopharyngeal muscular dystrophy. FASEB J. 33: 7155-7167.
3. Sarker, M.K., et al. 2020. Attenuation of diabetic kidney injury in DPP4-deficient rats; role of GLP-1 on the suppression of AGE formation by inducing glyoxalase 1. Aging 12: 593-610.

RESEARCH USE

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