

RAGE (A11): sc-80652

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 NF κ B. 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.

CHROMOSOMAL LOCATION

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

SOURCE

RAGE (A11) is a mouse monoclonal antibody raised against a truncated extracellular domain of RAGE of human origin.

PRODUCT

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

RAGE (A11) is available conjugated to agarose (sc-80652 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-80652 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-80652 PE), fluorescein (sc-80652 FITC), Alexa Fluor[®] 488 (sc-80652 AF488), Alexa Fluor[®] 546 (sc-80652 AF546), Alexa Fluor[®] 594 (sc-80652 AF594) or Alexa Fluor[®] 647 (sc-80652 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-80652 AF680) or Alexa Fluor[®] 790 (sc-80652 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

RAGE (A11) is recommended for detection of natural and recombinant RAGE of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

RAGE (A11) is also recommended for detection of natural and recombinant RAGE in additional species, including bovine.

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.

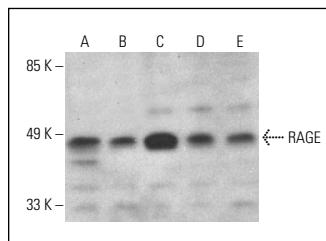
Molecular Weight of RAGE: 46 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409 or ECV304 cell lysate: sc-2269.

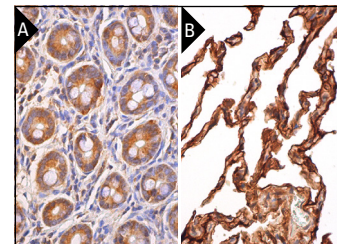
STORAGE

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

DATA



RAGE (A11) HRP: sc-80652 HRP. Direct western blot analysis of RAGE expression in OVCAR-3 (A), A549 (B), Jurkat (C), IMR-32 (D) and ECV304 (E) whole cell lysates.



RAGE (A11): sc-80652. Immunoperoxidase staining of formalin fixed, paraffin-embedded human colon tissue showing cytoplasmic staining of glandular cells and endothelial cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human lung tissue showing membrane and cytoplasmic staining of pneumocytes and macrophages (B).

SELECT PRODUCT CITATIONS

- Grotterod, I., et al. 2010. Signal transduction mechanisms involved in S100A4-induced activation of the transcription factor NF κ B. *BMC Cancer* 10: 241.
- Nankali, M., et al. 2016. Increased expression of the receptor for advanced glycation end-products (RAGE) is associated with advanced breast cancer stage. *Oncol. Res. Treat.* 39: 622-628.
- Rahimi, F., et al. 2017. Overexpression of receptor for advanced glycation end products (RAGE) in ovarian cancer. *Cancer Biomark.* 18: 61-68.
- Lee, Y.R., et al. 2018. Therapeutic positioning of secretory acetylated APE1/Ref-1 requirement for suppression of tumor growth in triple-negative breast cancer *in vivo*. *Sci. Rep.* 8: 8701.
- Prantner, D., et al. 2020. The role of RAGE in host pathology and crosstalk between RAGE and TLR4 in innate immune signal transduction pathways. *FASEB J.* 34: 15659-15674.
- Hu, Z., et al. 2021. Acute glucose fluctuation promotes RAGE expression via reactive oxygen species-mediated NF κ B activation in rat podocytes. *Mol. Med. Rep.* 23: 330.
- Wakao, S., et al. 2022. Phagocytosing differentiated cell-fragments is a novel mechanism for controlling somatic stem cell differentiation within a short time frame. *Cell. Mol. Life Sci.* 79: 542.
- Baek, C.H., et al. 2023. AMPK boosts ADAM10 shedding activity in human aortic endothelial cells by promoting Rab14-dependent ADAM10 cell surface translocation. *Biochem. Biophys. Res. Commun.* 675: 54-60.

RESEARCH USE

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

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