



RAGE (1-300): sc-4527 WB

BACKGROUND

Advanced glycosylation end products of proteins (AGEs) are non-enzymatically 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.

REFERENCES

1. Neeper, M., Schmidt, A.M., Brett, J., Yan, S.D., Wang, F., Pan, Y.C., Elliston, K., Stern, D., and Shaw, A. 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., Schmidt, A.M., Anderson, G.M., Zhang, J., Brett, J., Zou, Y.S., Pinsky, D., and Stern, D. 1994. Enhanced cellular oxidant stress by the interaction of advanced glycation end products with their receptors/binding proteins. *J. Biol. Chem.* 269: 9889-9897.
3. Miyata, T., Hori, O., Zhang, J., Yan, S.D., Ferran, L., Iida, Y., and Schmidt, A.M. 1996. The receptor for advanced glycation end products (RAGE) is a central mediator of the interaction of AGE- β 2microglobulin with mononuclear phagocytes via an oxidant-sensitive pathway. Implications for the pathogenesis of dialysis-related amyloidosis. *J. Clin. Invest.* 98: 1088-1094.
4. Schmidt, A.M., Hori, O., Cao, R., Yan, S.D., Brett, J., Wautier, J.L., Ogawa, S., Kuwabara, K., Matsumoto, M., and Stern, D. 1996. RAGE: a novel cellular receptor for advanced glycation end products. *Diabetes* 45: Suppl. 3: S77-80.
5. Chappay, O., Dosquet, C., Wautier, M.P., and Wautier, J.L. 1997. Advanced glycation end products, oxidant stress and vascular lesions. *Eur. J. Clin. Invest.* 27: 97-108.
6. Li, J. and Schmidt, A.M. 1997. Characterization and functional analysis of the promoter of RAGE, the receptor for advanced glycation end products. *J. Biol. Chem.* 272: 16498-16506.
7. Lander, H.M., Tauras, J.M., Ogiste, J.S., Hori, O., Moss, R.A., Schmidt, A.M. 1997. Activation of the receptor for advanced glycation end products triggers a p21 (ras)-dependent mitogen-activated protein kinase pathway regulated by oxidant stress. *J. Biol. Chem.* 272: 17810-17814.

SOURCE

RAGE (1-300) is expressed in *E. coli* as a 60 kDa tagged fusion protein corresponding to amino acids 1-300 of RAGE of human origin.

STORAGE

Store at -20° C; stable for one year from the date of shipment.

PRODUCT

RAGE (1-300) is purified from bacterial lysates (>98%) by glutathione agarose affinity chromatography; supplied as 10 μ g in 0.1 ml SDS-PAGE loading buffer.

APPLICATIONS

RAGE (1-300) is suitable as a Western blotting control for sc-5563.

RESEARCH USE

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