Mouse/Rat RAGE Antibody

Monoclonal Rat IgG_{2A} Clone # 175410

Catalog Number: MAB1179

DESCRIPTION

Species Reactivity	Mouse/Rat
Specificity	Detects mouse and rat RAGE in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant human RAGE is observed.
Source	Monoclonal Rat IgG_{2A} Clone # 175410
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse RAGE Gly23-Ala342 Accession # NP_031451
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

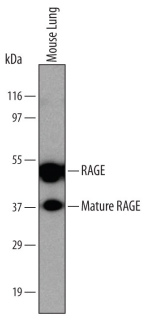
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	2 µg/mL	See Below
Immunohistochemistry	8-25 µg/mL	See Below

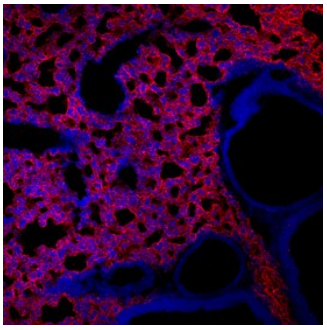
DATA

Western Blot



Detection of Mouse RAGE by Western Blot. Western blot shows lysates of mouse lung tissue. PVDF membrane was probed with 2 µg/mL of Rat Anti-Mouse/Rat RAGE Monoclonal Antibody (Catalog # 1179) followed by HRP-conjugated Anti-Rat IgG Secondary Antibody (Catalog # HAF005). Specific bands were detected for RAGE and mature RAGE at approximately 50 and 38 kDa, respectively (as indicated). This experiment was conducted under non-reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



RAGE in Mouse Lung. RAGE was detected in perfusion fixed frozen sections of adult mouse lung using Rat Anti-Mouse/Rat RAGE Monoclonal Antibody (Catalog # MAB1179) at 10 µg/mL overnight at 4 °C. Tissue was stained using the Northern-Lights™ 557-conjugated Anti-Rat IgG Secondary Antibody (red; Catalog # NL013) and counterstained with DAPI (blue). View our protocol for Fluorescent IHC Staining of Frozen Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956

Mouse/Rat RAGE Antibody

Monoclonal Rat IgG_{2A} Clone # 175410

Catalog Number: MAB1179

BACKGROUND

Advanced glycation endproducts (AGE) are adducts formed by the non-enzymatic glycation or oxidation of macromolecules (1). AGE forms during aging and its formation is accelerated under pathophysiologic states such as diabetes, Alzheimer's disease, renal failure and immune/inflammatory disorders. Receptor for Advanced Glycation Endoproducts (RAGE), named for its ability to bind AGE, is a multiligand receptor belonging the immunoglobulin (Ig) superfamily. Besides AGE, RAGE binds amyloid β-peptide, S100/calgranulin family proteins, high mobility group B1 (HMGB1, also know as amphoterin) and leukocyte integrins (1, 2). The mouse RAGE gene encodes a 403 amino acid (aa) residue type I transmembrane glycoprotein with a 22 aa signal peptide, a 319 aa extracellular domain containing a Ig-like V-type domain and two Ig-like Ce-type domains, a 21 aa transmembrane domain and a 41 aa cytoplasmic domain (3). The V-type domain and the cytoplasmic domain are important for ligand binding and for intracellular signaling, respectively. Two alternative splice variants, lacking the V-type domain or the cytoplasmic tail, are known (1, 4). RAGE is highly expressed in the embryonic central nervous system (5). In adult tissues, RAGE is expressed at low levels in multiple tissues including endothelial and smooth muscle cells, mononuclear phagocytes, pericytes, microglia, neurons, cardiac myocytes and hepatocytes (6). The expression of RAGE is upregulated upon ligand interaction. Depending on the cellular context and interacting ligand, RAGE activation can trigger differential signaling pathways that affect divergent pathways of gene expression (1, 7). RAGE activation modulates varied essential cellular responses (including inflammation, immunity, proliferation, cellular adhesion and migration) that contribute to cellular dysfunction associated with chronic diseases such as diabetes, cancer, amyloidoses, and immune or inflammatory disorders (1).

References:

1. Schmidt, A. *et al.* (2001) J. Clin. Invest. **108**:949.
2. Chavakis, T. *et al.* (2003) J. Exp. Med. **198**:507.
3. Renard, C. *et al.* (1997) Mol. Pharmacol. **52**:54.
4. Yonekura, H. *et al.* (2003) Biochem. J. **370**:1097.
5. Hori, O. *et al.* (1995) J. Biol. Chem. **270**:25752.
6. Brett, J. *et al.* (1993) Am. J. Pathol. **143**:1699.
7. Valencia, J.V. *et al.* (2004) Diabetes **53**:743.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956