

**DESCRIPTION**

<b>Species Reactivity</b>	Mouse
<b>Specificity</b>	Detects mouse RAGE in direct ELISAs and Western blots. In Western blots, approximately 15% cross-reactivity with recombinant canine RAGE and no cross-reactivity with recombinant human RAGE or recombinant rat RAGE is observed.
<b>Source</b>	Monoclonal Rat IgG <sub>2A</sub> Clone # 697023
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant mouse RAGE Gly23-Leu342 Accession # NP_031451
<b>Conjugate</b>	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm
<b>Formulation</b>	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.  *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

**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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Flow Cytometry</b>	0.25-1 µg/10 <sup>6</sup> cells	Mouse splenocytes treated with Recombinant Mouse IL-12 (Catalog # 419-ML), Goat Anti-Mouse IL-4 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-404-NA), Hamster Anti-Mouse CD3ε Monoclonal Antibody (Catalog # MAB484), and Rat Anti-Mouse CD28 Monoclonal Antibody (Catalog # MAB4831)

**PREPARATION AND STORAGE**

<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Protect from light. Do not freeze.</b> ● 12 months from date of receipt, 2 to 8 °C as supplied.

**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 pathophysiological states such as diabetes, Alzheimer's disease, renal failure and immune/inflammatory disorders. Receptor for Advanced Glycation Endproducts (RAGE), named for its ability to bind AGE, is a multiligand receptor belonging to the immunoglobulin (Ig) superfamily. Besides AGE, RAGE binds amyloid β-peptide, S100/calgranulin family proteins, high mobility group B1 (HMGB1, also known 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:**

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

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