

Anti-RAGE Antibody
Catalog # ABO10553**Specification****Anti-RAGE Antibody - Product Information**

Application	WB, IHC
Primary Accession	O15109
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

Description

Rabbit IgG polyclonal antibody for Advanced glycosylation end product-specific receptor(AGER) detection. Tested with WB, IHC-P, IHC-F in Human;Mouse;Rat.

Reconstitution

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-RAGE Antibody - Additional Information

Gene ID 177

Other Names

Advanced glycosylation end product-specific receptor, Receptor for advanced glycosylation end products, AGER, RAGE

Calculated MW

42803 MW KDa

Application Details

Immunohistochemistry(Frozen Section), 0.5-1 µg/ml, Rat,
Mouse
Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Rat, Mouse,
By Heat
Western blot, 0.1-0.5 µg/ml, Human

Subcellular Localization

Isoform 1: Cell membrane; Single-pass type I membrane protein.

Tissue Specificity

Endothelial cells.

Protein Name

Advanced glycosylation end product-specific receptor

Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg Thimerosal, 0.05mg NaN₃.

Immunogen

A synthetic peptide corresponding to a sequence in the middle region of human RAGE(174-192aa KEQTRRHPEGLFTLQSEL), different from the related mouse and rat sequences by two amino acids.

Purification

Immunogen affinity purified.

Cross Reactivity

No cross reactivity with other proteins

Storage

At -20°C for one year. After r° Constitution, at 4°C for one month. It° Can also be aliquotted and stored frozen at -20°C for a longer time. Avoid repeated freezing and thawing.

Sequence Similarities

Contains 2 Ig-like C2-type (immunoglobulin-like) domains.

Anti-RAGE Antibody - Protein Information

Name AGER

Synonyms RAGE

Function

Cell surface pattern recognition receptor that senses endogenous stress signals with a broad ligand repertoire including advanced glycation end products, S100 proteins, high-mobility group box 1 protein/HMGB1, amyloid beta/APP oligomers, nucleic acids, phospholipids and glycosaminoglycans (PubMed: 27572515, PubMed: 28515150, PubMed: 34743181). Advanced glycosylation end products are nonenzymatically glycosylated proteins which accumulate in vascular tissue in aging and at an accelerated rate in diabetes (PubMed: 21565706). These ligands accumulate at inflammatory sites during the pathogenesis of various diseases, including diabetes, vascular complications, neurodegenerative disorders, and cancers and RAGE transduces their binding into pro-inflammatory responses. Upon ligand binding, uses TIRAP and MYD88 as adapters to transduce the signal ultimately leading to the induction or inflammatory cytokines IL6, IL8 and TNFalpha through activation of NF-kappa-B (PubMed: 21829704, PubMed: 33436632). Interaction with S100A12 on endothelium, mononuclear phagocytes, and lymphocytes triggers cellular activation, with generation of key pro-inflammatory mediators (PubMed: 19386136). Interaction with S100B after myocardial infarction may play a role in myocyte apoptosis by activating ERK1/2 and p53/TP53 signaling (By similarity). Contributes to the translocation of amyloid- beta peptide (ABPP) across the cell membrane from the extracellular to the intracellular space in cortical neurons (PubMed: 19906677). ABPP- initiated RAGE signaling, especially stimulation of p38 mitogen- activated protein kinase (MAPK), has the capacity to drive a transport system delivering ABPP as a complex with RAGE to the intraneuronal space. Participates in endothelial albumin transcytosis together with HMGB1 through the RAGE/SRC/Caveolin-1 pathway, leading to endothelial hyperpermeability (PubMed: 27572515). Mediates the loading of HMGB1 in extracellular vesicles (EVs) that shuttle HMGB1 to hepatocytes by transferrin-mediated endocytosis and subsequently promote hepatocyte pyroptosis by activating the NLRP3 inflammasome (PubMed: 34743181). Promotes also extracellular hypomethylated DNA (CpG DNA) uptake by cells via the endosomal route to activate inflammatory responses (PubMed: 24081950

target="_blank">24081950, PubMed:28515150).

Cellular Location

[Isoform 1]: Cell membrane; Single-pass type I membrane protein [Isoform 10]: Cell membrane; Single-pass type I membrane protein

Tissue Location

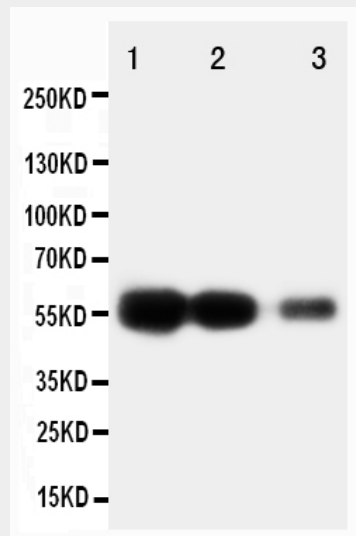
Endothelial cells.

Anti-RAGE Antibody - Protocols

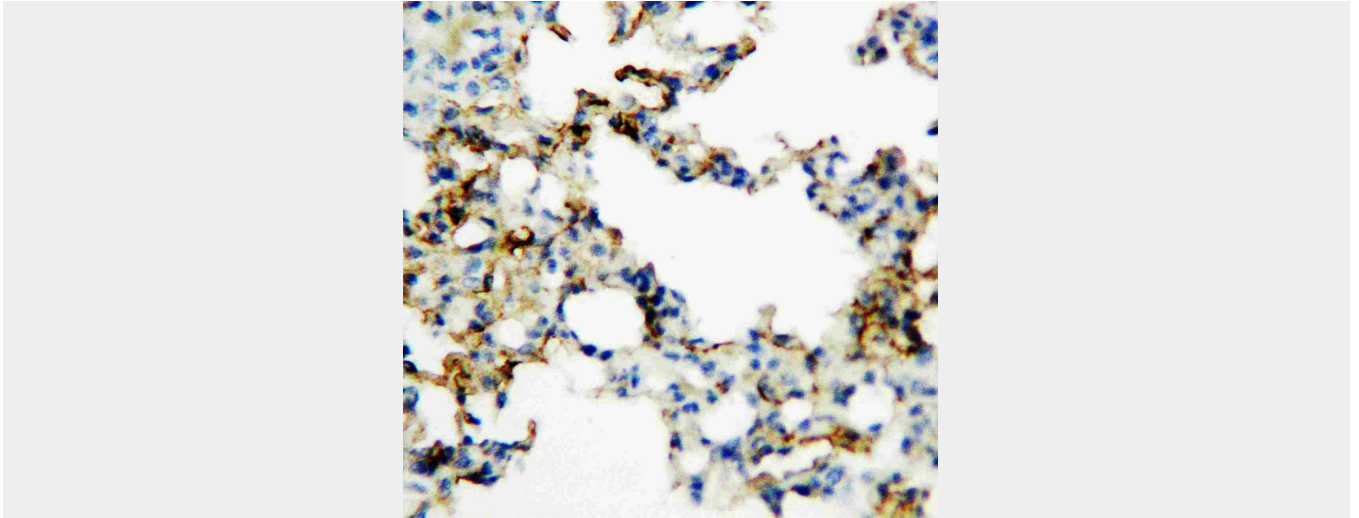
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Anti-RAGE Antibody - Images



Anti-RAGE antibody, ABO10553, Western blotting
Lane 1: Recombinant Human RAGE Protein 10ng
Lane 2: Recombinant Human RAGE Protein 5ng
Lane 3: Recombinant Human RAGE Protein 2.5ng



Anti-RAGE antibody, ABO10553, IHC(P)IHC(P): Rat Lung Tissue

Anti-RAGE Antibody - Background

The receptor for advanced glycation end products (RAGE) is a multi-ligand member of the immunoglobulin superfamily of cell surface molecules. It interacts with distinct molecules implicated in homeostasis, development and inflammation, and certain diseases such as diabetes and Alzheimer's disease. RAGE is also a central cell surface receptor for amphotericin and EN-RAGE. RAGE is associated with sustained NF-kappaB activation in the diabetic microenvironment and has a central role in sensory neuronal dysfunction. Moreover, RAGE propagates cellular dysfunction in several inflammatory disorders and diabetes, and it also functions as an endothelial adhesion receptor promoting leukocyte recruitment.