RAGE, Canine (AGER) Active Protein

PRODUCT OVERVIEW

Product Name	RAGE, Canine (AGER), Active Protein
Full Product Name	RAGE, Recombinant, Canine (Receptor for Advanced Glycosylation End Products, Advanced Glycosylation End Product-specific Receptor, AGER)
Product Gene Name	AGER active protein
Host	Recombinant Canine
Form/Format	Supplied as a lyophilized powder in PBS. Reconstitute with PBS to 100ug/ml.
Purity/Purification	Highly Purified 90%, as determined by SDS-PAGE under reducing conditions and visualized by silver stain.
Preparation and Storage	Lyophilized powder may be stored at 4 degree C for short-term only. Reconstitute to nominal volume by adding sterile PBS and store at -20 degree C. Reconstituted product is stable for 12 months at -20 degree C. For maximum recovery of product, centrifuge the original vial after thawing and prior to removing the cap. Further dilutions can be made in assay buffer.
Molecular Weight	34.6kD
Chromosome Location	Chromosome: 12; NC_006594.3 (1574262..1577484, complement). Location: chromosome: 12
Active Protein Note	Protein activity can be an ambiguous term. Please refer to the data sheet or inquire with Technical Support to determine the definition of activity for this product.
Activity	Measured by its ability to bind biotinylated advanced glycation endproducts of bovine serum albumin (AGE-BSA)
Endotoxin Level	1EU/1ug.
Product Categories/Family for AGER active protein	Molecular Biology; MB-Receptors
Related Product Information for AGER active protein	Advanced glycation endproducts (AGEs) are adducts formed by the nonenzymatic glycation of macromolecules. AGE formation is accelerated in oxidative and hyperglycemic conditions, diabetes, renal failure, atherosclerosis, Alzheimer's disease, arthritis, and in normal aging (1-5). Receptor for advanced glycation endproducts (RAGE) is a 35kD type I transmembrane protein belonging the immunoglobulin superfamily. Besides AGEs, RAGE binds b-amyloid peptide, S100/calgranulin family proteins, HMGB1/amphoterin, and leukocyte integrins (6-9). Mature canine RAGE consists of a 383 amino acid (aa) extracellular domain (ECD) with one Ig-like V-type domain and two Ig-like C-type domains, a 23 aa transmembrane segment, and a 43 aa cytoplasmic domain (10). Within the ECD, canine RAGE shares 73%-77% aa sequence identity with human, mouse, and rat RAGE. In human, soluble forms of RAGE are generated by alternate splicing and are associated with multiple disease states (11, 12). RAGE is expressed in the embryonic central nervous system and on macrophages, monocytes, smooth muscle cells, and endothelial cells (13-15). It is upregulated in response to AGE accumulation, and its activation induces a broad proinflammatory response (6, 15). The increased production of reactive oxygen species during inflammation promotes additional AGE formation and RAGE upregulation, a cycle that exacerbates diabetic complications and inflammation-induced tissue injury (2, 4). A DNA sequence encoding the extracellular domain of canine RAGE (Met 1-Val 339; Accession # ABA18645) was fused to a six-histidine tag at the C-terminus in a mouse myeloma cell line, NS0. Calculated molecular mass of 34.6kD. The recombinant canine RAGE migrates as an ~40-44kD protein in SDS-PAGE under reducing conditions.
Other Notes	Small volumes of AGER active protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

Searchable Terms for AGER purchase	MBS637345 is an active protein targeting AGER. Also known as RAGE, Recombinant, Canine (Receptor for Advanced Glycosylation End Products, Advanced Glycosylation End Product-specific Receptor, AGER). Host: Recombinant Canine.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for AGER. It may not necessarily be applicable to this product.

NCBI GI #	75267753
NCBI GeneID	403168
NCBI Accession #	ABA18650.1
NCBI Official Full Name	RAGE
NCBI Official Symbol	AGER
NCBI Official Synonym Symbols	RAGE
Protein Family	Advanced glycosylation end product-specific receptor
NCBI Protein Information	advanced glycosylation end product-specific receptor; RAGE/AGER; advanced glycation end product receptor
Research Articles on AGER	**1.** RAGE and HMGB1 expression down-regulation in canine disseminated histiocytic sarcoma points to a role in the progression of histiocytic disorders
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