For Research Use Only

Recombinant Rat MMP-8 protein (rFc Tag)

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Catalog Number: Eg3278

Basic Information

Species:
Rat

Purity:
>90 %, SDS-PAGE

Tag:
rFc Tag

Technical Specifications

Purity:
>90 %, SDS-PAGE

Endotoxin Level:
<1.0 EU/ μ g protein, LAL method

Source:
HEK293-derived Rat MMP-8 protein Leu21-Pro466 (Accession# O88766) with a rabbit IgG Fc tag at the C-terminus.

GeneID:
63849

Accession:
O88766

Predicted Molecular Mass:
77.2 kDa

SDS-PAGE:

Formulation:
Lyophilized from sterile PBS, pH 7.4. Normally 5% trehalose and 5% mannitol are added as protectants before lyophilization.

Biological Activity

Not tested

Storage and Shipping

Storage:
It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.

- Until expiry date, -20℃ to -80℃ as lyophilized proteins.
- 3 months, -20℃ to -80℃ under sterile conditions after reconstitution.

Shipping:
The product is shipped at ambient temperature. Upon receipt, store it immediately at the recommended temperature.

Reconstitution

Briefly centrifuge the tube before opening. Reconstitute at 0.1-0.5 mg/mL in sterile water.

Background

Matrix metalloproteinase-8 (MMP-8) is a zinc-dependent endopeptidase that plays a crucial role in various biological processes, including tissue repair, inflammation, and neurodegenerative diseases. In rats, MMP-8 has been extensively studied, and several key findings have emerged. Recent evidence suggests that reactive astrocytes play an important role in neuroinflammation and neurodegenerative diseases. A study investigated whether an MMP-8 inhibitor (M8I) could control neuroinflammation in lipoteichoic acid (LTA)-stimulated rat primary astrocytes. The results showed that M8I significantly inhibited LTA-induced expression of inflammatory molecules such as iNOS, TNF- α , IL-1 β , IL-6, and TLR-2. Additionally, M8I increased the expression of phase II antioxidant enzymes such as hemeoxygenase-1, NQO1, catalase, and MnSOD by modulating the Nrf2/ARE signaling pathway. These findings suggest the therapeutic potential of an MMP-8 inhibitor in neuroinflammatory disorders associated with astrocyte reactivity.

References

1. Yu J, Mursu E, et al. (2019) Arch Oral Biol. 97:238-244.
2. Tsubota M, Sasano Y, et al. (2002) J Dent Res. 81(10):673-8.
3. Lee EJ, Park JS, et al. (2018) J Neuroinflammation. 15(1):326.
4. Cederqvist K, et al. (2006) Pediatr Res. 60(4):395-400.

Synonyms

MMP8, EC:3.4.24.34, Matrix metalloproteinase-8, Neutrophil collagenase

Selected Validation Data