

## Trypsin (MS grade)

<b>Cat. No.:</b>	HY-129047A
<b>CAS No.:</b>	9002-07-7
<b>Target:</b>	Ser/Thr Protease; Protease Activated Receptor (PAR)
<b>Pathway:</b>	Metabolic Enzyme/Protease; GPCR/G Protein
<b>Storage:</b>	Please store the product under the recommended conditions in the Certificate of Analysis.

## Trypsin (MS grade)

### BIOLOGICAL ACTIVITY

<b>Description</b>	Trypsin MS grade is a serine protease enzyme, and hydrolyzes proteins at the carboxyl side of the Lysine or Arginine. Trypsin MS grade activates PAR2 and PAR4. Trypsin MS grade induces cell-to-cell membrane fusion in PDCoV infection by the interaction of S glycoprotein of PDCoV and pAPN. Trypsin MS grade also promotes cell proliferation and differentiation. Trypsin MS grade can be used in the research of wound healing and neurogenic inflammation <sup>[1][2][3][4][6]</sup> .
<b>IC<sub>50</sub> &amp; Target</b>	IC <sub>50</sub> : 37 nM (Tyr1173 site, in NR6wtEGFR cells), 37 nM (Tyr992 site, in NR6wtEGFR cells) <sup>[1]</sup>
<b>In Vitro</b>	<p>Trypsin MS grade (5 µg/mL, 24 or 48 h) promotes porcine deltacoronavirus (PDCoV) replication in LLC-PK cells<sup>[2]</sup>.</p> <p>Trypsin MS grade (10 and 50 ng/mL, 12 h) enhances PDCoV cell-to-cell spread in LLC-PK cells by promoting membrane fusion in LLC-PK cells<sup>[2]</sup>.</p> <p>Trypsin MS grade (0.05%, 3 h) promotes C6 glioma cell proliferation in serum-free and growth factor-free medium<sup>[3]</sup>.</p> <p>Trypsin MS grade (20 -150 ng/mL, 5 days) potentiates PBMC differentiation<sup>[4]</sup>.</p> <p>This product can be used for protein sequence analysis, such as protein mass spectrometry, sequencing, and peptide map analysis.</p> <p><b>Protocol</b></p> <p>This product is recommended to be dissolved or diluted with 1 mM HCl. The recommended enzymatic digestion ratio is recombinant trypsin: target protein = 1:20-1:100, and the optimal pH is 7.0-8.0.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>
<b>In Vivo</b>	Trypsin MS grade (100-500 µg per site in 50 µL saline, intradermal injection) induces scratching behaviour in mice <sup>[5]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### REFERENCES

- [1]. Bhupendra S.Kaphalia. Chapter 16 - Biomarkers of acute and chronic pancreatitis. Biomarkers in Toxicology. 2014, Pages 279-289.
- [2]. Yue-Lin Yang, et al. Trypsin promotes porcine deltacoronavirus mediating cell-to-cell fusion in a cell type-dependent manner. Emerg Microbes Infect. 2020 Feb 24;9(1):457-468.
- [3]. H Amano, et al. Trypsin promotes C6 glioma cell proliferation in serum- and growth factor-free medium. Neurosci Res. 1996 Jul;25(3):203-8.

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- [4]. Michael J. V. White, et al. Trypsin Potentiates Human Fibrocyte Differentiation. PLoS One. 2013; 8(8): e70795.
- [5]. R Costa, et al. Evidence for the role of neurogenic inflammation components in trypsin-elicited scratching behaviour in mice. Br J Pharmacol. 2008 Jul;154(5):1094-103.
- [6]. F Schmidlin, et al. Protease-activated receptors: how proteases signal to cells. Curr Opin Pharmacol. 2001 Dec;1(6):575-82.
- [7]. Bhupendra S.Kaphalia, et al. Chapter 16 - Biomarkers of acute and chronic pancreatitis. Biomarkers in Toxicology. 2014, Pages 279-289.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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