Gastric mucin

Cat. No.: HY-B2196

CAS No.: 84082-64-4

Target: Bacterial; Antibiotic

Pathway: Anti-infection

Storage: -20°C, sealed storage, away from moisture
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)

Gastric mucin

SOLVENT & SOLUBILITY

In Vitro

H_2O : 2 mg/mL (ultrasonic and warming and heat to 60°C)
DMSO : < 1 mg/mL (ultrasonic;warming;heat to 60°C) (insoluble or slightly soluble)

BIOLOGICAL ACTIVITY

Description

Gastric mucin is a large glycoprotein which is thought to play a major role in the protection of the gastrointestinal tract from acid, proteases, pathogenic microorganisms, and mechanical trauma. ***In Vitro:*** Gastric mucin may be integrally involved in the mechanism of gastric mucosal injury caused by Helicobacter pylori leading to gastritis, peptic ulceration, and possibly gastric cancer[1]. Gastric mucins are classified into two types based on their histochemical properties. The first is a surface mucous cell-type mucin, secreted from the surface mucous cells. The second is found in deeper portions of the mucosa and is secreted by gland mucous cells, including mucous neck cells, cardiac gland cells, and pyloric gland cells. The unique O-glycans in gastric mucin appears to function as a natural antibiotic, protecting the host from H. pylori infection[2]. Gastric mucin may provide protection to the surface epithelium gastrointestinal tract by scavenging oxidants produced within the lumen; however, it does so at the expense of its viscoelastic properties. Both native and pronase-treated mucin effectively scavenge hydroxyl radical and that the scavenging properties are not significantly different. The effective concentration of mucin required for a 50% reduction in malondialdehyde production is 10 mg/mL for both native and pronase-treated mucin [3].

In Vitro

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MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Patent. US11197824B2.
- bioRxiv. 2021 Feb 23.

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REFERENCES

[1]. Toribara NW, et al. Human gastric mucin. Identification of a unique species by expression cloning. J Biol Chem. 1993 Mar 15;268(8):5879-85.

[2]. Kawakubo M, et al. Natural antibiotic function of a human gastric mucin against Helicobacter pyloriinfection. Science. 2004 Aug 13;305(5686):1003-6.

[3]. Grisham MB, et al. Interaction between oxygen radicals and gastric mucin. Am J Physiol. 1987 Jul;253(1 Pt 1):G93-6.

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