

Caerulein

Product description

Caerulein is a decapeptide and an agonist of cholecystokinin (CCK) receptor. As a cholecystokinin analog, it can stimulate gastric, bile duct and pancreatic secretion, acting on pancreatic alveolar cells, leading to the secretion of large amounts of digestive enzymes and pancreatic juice, leading to acute edematous pancreatitis. Caerulein can be used to study signal transduction pathways mediated by NF-κB upregulated proteins such as intercellular adhesion molecule (ICAM-1), inflammation-related factors such as NADPH oxidase and Janus kinase. Cerulein can also be used to test gallbladder function and prevent gallbladder pain, renal colic and intermittent claudication pain. It is generally considered an antagonist of endogenous orphins and can be used in conjunction with LPS to establish animal models of pancreatitis. Cerulein has been successfully used to establish acute pancreatitis (AP) models in rats, mice, dogs, Syrian hamsters and other animals. The modeling mechanism is as follows:

- 1) Upregulate the expression of intercellular adhesion molecule (ICAM-1) in pancreatic acinar cells by stimulating intracellular NF-KB. Surface ICAM-1 in turn promotes neutrophil adhesion to acinar cells thereby enhancing pancreatic inflammatory effects;
- 2) Induction of pancreatic inflammation by disrupting digestive enzyme secretion and causing cytoplasmic vacuolization and acinar cell death, leading to pancreatic edema;
- 3) Activate inflammation-promoting factors.

Specifications

English Synonym	Caerulein Sulfated; Cerulein, Ceruletide; [Tyr(SO ₃ H) ⁴]Caerulein
CAS NO.	17650-98-5
Formula	C ₅₈ H ₇₃ N ₁₃ O ₂₁ S ₂
Molecular Weight	1352.4
Appearance	White powder
Purity	≥97%
Solubility	Soluble in DMSO, insoluble in water
Sequence	pGlu-Gln-Asp-Tyr(SO ₃ H)-Thr-Gly-Trp-Met-Asp-Phe-NH ₂

Components

Components No.	C331603E
Size	1 mg

Storage

Dry ice shipping. Powder: -85°C~-65°C, valid for 2 years; -15°C~-25°C, valid for 1 year. Solution should be stored at -85°C to -65°C with a shelf life of 6 months; or at -15°C to -25°C with a shelf life of 1 month. Keep refrigerated and dry, avoiding repeated freeze-thaw cycles.

Notes

1. Cerulein powder has the best storage stability. The solution will reduce the storage period. It is recommended to use the storage solution within two months.
2. For your safety and health, please wear a lab coat and disposable gloves.
3. For research use only.

Instructions

Use DMSO to prepare the stock solution with a concentration of 2 mg/mL. The solution should be stored in aliquots at -85°C~-65°C or -15°C~-25°C to avoid repeated freezing and thawing. If conducting in vivo experiments, it needs to be diluted to the required working solution concentration with a buffer solution (such as PBS) before injecting it into the mouse.