

## Troponin-IN-1

## Chemical Properties

CAS No. :

Formula:

Molecular Weight:

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.

## Biological Description

Description	Troponin-IN-1 is a troponin inhibitor that protects H9c2 cardiomyocytes from OGD/R injury by reducing LDH leakage, pyroptosis, and reactive oxygen species (ROS) accumulation. In LPS-induced RAW264.7 cells, it suppresses NO production and the release of IL-1 $\beta$ , TNF- $\alpha$ , and IL-18. Troponin-IN-1 functions through the caspase-1/GSDMD/IL-18 signaling pathway and reduces myocardial infarction size in a LAD-induced myocardial ischemia/reperfusion (MI/R) male rat model. It is a valuable compound for studying myocardial ischemia/reperfusion injury.
Targets(IC50)	Caspase,Pyroptosis
In vitro	Troponin-IN-1 (Compound 19) at concentrations of 0.1-10 $\mu$ M during a 24-hour period can increase the viability of H9c2 myocardial cells subjected to OGD/R injury, decrease LDH leakage, and inhibit the accumulation of reactive oxygen species (ROS). At 10-50 $\mu$ M, Troponin-IN-1 reduces pyroptosis in H9c2 cells, preserves cell morphology, and blocks pyroptosis by inhibiting the caspase-1/GSDMD/IL-18 signaling pathway. With a pre-treatment of 6.25-100 $\mu$ M for 30 minutes, Troponin-IN-1 inhibits NO production induced by LPS in RAW264.7 cells (IC 50 = 13.49 $\mu$ M), and reduces the release of IL-1 $\beta$ , TNF- $\alpha$ , and IL-18.
In vivo	Troponin-IN-1 (Compound 19) administered intraperitoneally at 20-80 mg/kg once daily for 7 days, with the final dose given 1 hour before surgery, can reduce myocardial infarction size induced by LAD in male Sprague-Dawley rats with MI/R.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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