# SN50

**Cat. No.:** HY-P0151

**CAS No.:** 213546-53-3

**Molecular Formula:** $C_{129}H_{230}N_{36}O_{29}S$

**Molecular Weight:** 2781.5

**Sequence:** Ala-Ala-Val-Ala-Leu-Leu-Pro-Ala-Val-Leu-Leu-Ala-Leu-Leu-Ala-Pro-Val-Gln-Arg-Lys-Arg-Gln-Lys-Leu-Met-Pro

AAVALLPAVLLALLAPVQRKRQKLMP

**Sequence Shortening:** AAVALLPAVLLALLAPVQRKRQKLMP

**Target:** NF-κB

**Pathway:** NF-κB

**Storage:** Sealed storage, away from moisture

Powder -80°C 2 years

-20°C 1 year

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

## SOLVENT & SOLUBILITY

**In Vitro**

$H_2O$ : 50 mg/mL (17.98 mM; Need ultrasonic)

| Preparing Stock Solutions | Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|---|
| | 1 mM | 0.3595 mL | 1.7976 mL | 3.5952 mL |
| | 5 mM | 0.0719 mL | 0.3595 mL | 0.7190 mL |
| | 10 mM | 0.0360 mL | 0.1798 mL | 0.3595 mL |

Please refer to the solubility information to select the appropriate solvent.

**In Vivo**

1. Add each solvent one by one: PBS
   Solubility: 33.33 mg/mL (11.98 mM); Clear solution; Need ultrasonic

## BIOLOGICAL ACTIVITY

**Description** SN50 is a cell permeable inhibitor of NF-κB translocation.

**$IC_{50}$ & Target** NF-κB

**In Vitro** Pretreatment with SN50 results in a significant reduction in amount of PI-positive cells at 12, 24, and 48 h time-point post TBI compared with vehicle-treated groups[1]. Topical SN50 suppresses nuclear factor-κB activation in local cells and reduces the incidence of epithelial defects/ulceration in healing corneas. Myofibroblast generation, macrophage invasion, activity of matrix metalloproteinases, basement membrane destruction, and expression of cytokines are all decreased in treated corneas compared with controls[2]. Treating the human gastric cancer cells SGC7901 with SN50 could significantly enhance

| | |
|---|---|
| | the effects of LY294002 on inducing cell death after 24 h[3]. SN50 can inhibit translocation of NF-kB and production of inflammatory cytokines that are implicated in lipopolysaccharide (LPS)-induced lung injury[4].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |
| **In Vivo** | Treatment with SN50 accelerates the recovery of motor functional outcome from 1st to 4th day. Animals subjected to SN50 pretreatment demonstrate a significant decrease in the visuospatial learning latencies relative to the control group at 7 and 8 days post-TBI. Pretreatment with SN50 results in a significant reduction of NF-κB p65 protein levels from 6 to 48 h post-TBI and TNF-a protein levels from 12 to 48 h post-TBI[1].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

## PROTOCOL

| | |
|---|---|
| **Cell Assay** [3] | SN50 is diluted in distilled sterilization water to create a stock solution. The final concentration of the SN50 solution used is 18 μM. Cell viability is assessed with MTT assay. To determine the effects of SN50 on enhancing the role of LY294002 on SGC7901 cells, cells are plated into 96-well microplates (7×1000 cells/well) and cultured for 24 h. Then LY294002 (50 μM), SN50 (18 μM) and LY294002+SN50 are added to the culture medium and cell viability is assessed with MTT 24 h after drug treatment[3].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |
| **Animal Administration** [1] | Mice: SN50 is prepared in saline (total volume: 1 μL, concentration: 0.1 μg/μL). SN50 is administered into the ipsilateral cerebral ventricle 10 min before TBI. After TBI, the bone flap is replaced, the scalp incision is sutured, and then mice are allowed to awaken and returned to their cages. Mice are killed at 1, 6, 12, 24, 48, and 72 h after operation. Loss of plasmalemma integrity is evaluated by intraperitoneal injection of PI 1 h before killing the animal[1].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

## CUSTOMER VALIDATION

- Inflamm Regen. 2022 Aug 2;42(1):24.
- EMBO Mol Med. 2022 Dec 13;e16373.
- Engineering. 14 October 2022.
- Acta Pharm Sin B. 2021 Jan;11(1):71-88.
- Front Immunol. 2018 Jun 5;9:1225.

See more customer validations on www.MedChemExpress.com

## REFERENCES


[1]. Sun YX, et al. Therapeutic effect of SN50, an inhibitor of nuclear factor-κB, in treatment of TBI in mice. Neurol Sci. 2013 Mar;34(3):345-55.

[2]. Saika S, et al. Therapeutic effect of topical administration of SN50, an inhibitor of nuclear factor-kappaB, in treatment of corneal alkali burns in mice. Am J Pathol. 2005 May;166(5):1393-403.

[3]. Zhao K, et al. SN50 enhances the effects of LY294002 on cell death induction in gastric cancer cell line SGC7901. Arch Med Sci. 2013 Dec 30;9(6):990-8.

[4]. Chian CF, et al. Inhibitor of nuclear factor-κB, SN50, attenuates lipopolysaccharide-induced lung injury in an isolated and perfused rat lung model. Transl Res. 2014 Mar;163(3):211-20.

**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA