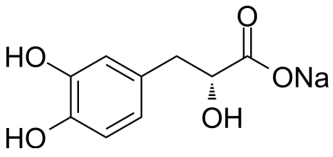
Danshensu sodium

Cat. No.:	HY-N1913A
CAS No.:	81075-52-7
Molecular Formula:	$C_9H_9NaO_5$
Molecular Weight:	220.15
Target:	Keap1-Nrf2; Apoptosis; NF-κB; Reactive Oxygen Species; SARS-CoV
Pathway:	NF-κB; Apoptosis; Immunology/Inflammation; Metabolic Enzyme/Protease; Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Danshensu (Dan shen suan A) sodium, an orally active phenolic compound, can induce Nrf2/HO-1 activation and inhibition of NF-κB pathway. Danshensu sodium reduces reactive oxygen species (ROS) production, upregulates antioxidant defense mechanism and inhibits intrinsic apoptotic pathway. Danshensu sodium displays a potent antiviral activity against SARS-CoV-2 with EC_{50} of 0.97 μM. Danshensu sodium has anti-oxidation, anti-apoptosis, anti-lung inflammatory and has the potential for COVID-19, cardiovascular and cerebrovascular diseases research[1][2][3].

In Vitro

Danshensu (Dan shen suan A) sodium potently inhibits the entry of SARS-CoV-2 S protein-pseudo-typed virus (SARS-CoV-2 S) into ACE2-overexpressed HEK-293T cells (IC_{50}=0.31 μM) and Vero-E6 cell (IC_{50}=4.97 μM)[1].

Danshensu (0-100 μM; for 24 h) sodium at higher concentrations (50 and 100 μM) causes significant reduction in migration and invasion of both FaDu and Ca9-22 cells[2].

Danshensu (0-100 μM; for 24 h) sodium dose-dependently reduced the phosphorylation of ERK and p38 phosphorylation in FaDu cell[2].

Danshensu (0-100 μM; for 24, 48, 72 h) sodium does not have any cytotoxic effect on human oral cancer cells[2].

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

Cell Migration Assay [2]

Cell Line:	FaDu and Ca9-22 cells
Concentration:	25, 50, and 100 μM
Incubation Time:	24 h
Result:	At higher concentrations (50 and 100 μM) caused significant reduction in migration and invasion of both FaDu and Ca9-22 cells.

Western Blot Analysis[2]

Cell Line:	FaDu and Ca9-22 cells
Concentration:	25, 50, and 100 μM
Incubation Time:	24 h
Result:	Phosphorylation of ERK reduced dose-dependently after 24 h in FaDu cell.

	Caused significant reduction in p38 phosphorylation.

In Vivo

Danshensu (Dan shen suan A; 25, 50, 100 mg/kg; oral administration daily for 7 continuous days or i.v. once) sodium before SARS-CoV-2 S infection dose-dependently alleviates the pathological alterations in mice infected with SARS-CoV-2 S[1].

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

Animal Model:	Adult BALB/c mice (male, 6-8 weeks, 20±2 g)[1]
Dosage:	25, 50, 100 mg/kg
Administration:	Oral administration (daily for 7 continuous days) or i.v. (once)
Result:	Could prevent SARS-CoV-2 S protein-induced acute lung inflammation. Ameliorated inflammatory cytokines in serum and lung tissue.

CUSTOMER VALIDATION

- Phytomedicine. 2023 Mar 5;113:154743.

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REFERENCES

[1]. Wei Wang, et al. Danshensu alleviates pseudo-typed SARS-CoV-2 induced mouse acute lung inflammation. Acta Pharmacol Sin. 2022 Apr;43(4):771-780.

[2]. V Bharath Kumar, et al. Sodium Danshensu Inhibits Oral Cancer Cell Migration and Invasion by Modulating p38 Signaling Pathway. Front Endocrinol (Lausanne). 2020 Sep 30:11:568436.

[3]. Chen Yu, et al. Danshensu attenuates cisplatin-induced nephrotoxicity through activation of Nrf2 pathway and inhibition of NF-κB. Biomed Pharmacother. 2021 Oct:142:111995.

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