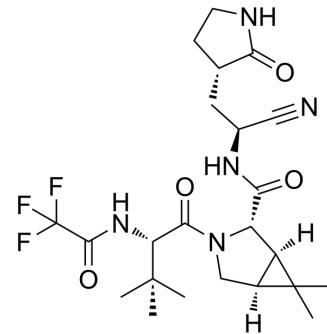


Nirmatrelvir

| | | | |
|--------------------|--|-------|----------|
| Cat. No.: | HY-138687 | | |
| CAS No.: | 2628280-40-8 | | |
| Molecular Formula: | C ₂₃ H ₃₂ F ₃ N ₅ O ₄ | | |
| Molecular Weight: | 499.53 | | |
| Target: | SARS-CoV | | |
| Pathway: | Anti-infection | | |
| Storage: | Powder | -20°C | 3 years |
| | In solvent | -80°C | 6 months |
| | | -20°C | 1 month |



SOLVENT & SOLUBILITY

In Vitro

DMSO : 140 mg/mL (280.26 mM; Need ultrasonic)
 Ethanol : 50 mg/mL (100.09 mM; Need ultrasonic)

| Preparing Stock Solutions | Concentration | Solvent Mass | | |
|---------------------------|---------------|--------------|------------|------------|
| | | 1 mg | 5 mg | 10 mg |
| | 1 mM | 2.0019 mL | 10.0094 mL | 20.0188 mL |
| | 5 mM | 0.4004 mL | 2.0019 mL | 4.0038 mL |
| | 10 mM | 0.2002 mL | 1.0009 mL | 2.0019 mL |

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
 Solubility: ≥ 2.08 mg/mL (4.16 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
 Solubility: ≥ 2.08 mg/mL (4.16 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
 Solubility: ≥ 2.08 mg/mL (4.16 mM); Clear solution

BIOLOGICAL ACTIVITY

| | |
|---------------------------|---|
| Description | Nirmatrelvir (PF-07321332) is a potent and orally active SARS-CoV 3C-like protease (3CL ^{PRO}) inhibitor. Nirmatrelvir (PF-07321332) targets to the SARS-CoV-2 virus and can be used for COVID-19 research ^[1] . |
| IC ₅₀ & Target | IC50: 3CL ^{PRO} ^[1] |
| In Vitro | 3CL ^{PRO} is responsible for cleaving polyproteins 1a and 1ab of SARS-CoV-2.1. Without the activity of the SARS-CoV-2 3CL ^{PRO} , nonstructural proteins (including proteases) cannot be released to perform their functions, inhibiting viral replication ^[1] . |

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

CUSTOMER VALIDATION

- N Engl J Med. 2023 Jan 5;388(1):89-91.
- Signal Transduct Target Ther. 2025 Jan 17;10(1):30.
- Nature. 2022 Jul;607(7917):119-127.
- Sci Immunol. 2023 Apr 14;8(82):eadf0348.
- Nat Commun. 2025 Apr 3;16(1):2900.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. KoenVandyck, et al. Considerations for the Discovery and Development of 3-Chymotrypsin-Like Cysteine Protease Inhibitors Targeting SARS-CoV-2 Infection. Current Opinion in Virology Available online 27 April 2021

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

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