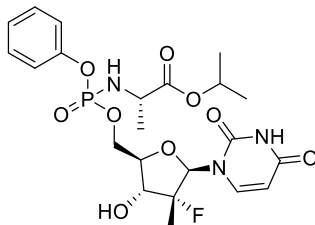


Product data sheet



MedKoo Cat#: 314202 Name: Sofosbuvir CAS#: 1190307-88-0 Chemical Formula: C ₂₂ H ₂₉ FN ₃ O ₉ P Exact Mass: 529.16254 Molecular Weight: 529.45253		
Product supplied as:	Powder	
Purity (by HPLC):	≥ 98%	
Shipping conditions	Ambient temperature	
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.	

1. Product description:

Sofosbuvir, also known as PSI-7977 and GS7977 (brand names Sovaldi and Virunon), is a drug used for hepatitis C virus (HCV) infection, with a high cure rate. It inhibits the RNA polymerase that the hepatitis C virus uses to replicate its RNA. It was discovered at Pharmasset and developed by Gilead Sciences. Sofosbuvir is a component of the first all-oral, interferon-free regimen approved for treating chronic Hepatitis C. In 2013, the FDA approved sofosbuvir in combination with ribavirin (RBV) for oral dual therapy of HCV genotypes 2 and 3, and for triple therapy with injected pegylated interferon (pegIFN) and RBV for treatment-naïve patients with HCV genotypes 1 and 4.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	73.33	138.50
Ethanol	62.5	118.05
Water	25.0	47.22
PBS (pH 7.2)	0.2	0.38
DMF	20.0	37.78

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.89 mL	9.44 mL	18.89 mL
5 mM	0.38 mL	1.89 mL	3.78 mL
10 mM	0.19 mL	0.94 mL	1.89 mL
50 mM	0.04 mL	0.19 mL	0.38 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

- Boccuto A, Dragoni F, Picarazzi F, Lai A, Della Ventura C, Veo C, Giammarino F, Saladini F, Zehender G, Zazzi M, Mori M, Vicenti I. Sofosbuvir Selects for Drug-Resistant Amino Acid Variants in the Zika Virus RNA-Dependent RNA-Polymerase Complex In Vitro. *Int J Mol Sci.* 2021 Mar 6;22(5):2670. doi: 10.3390/ijms22052670. PMID: 33800884; PMCID: PMC7962015.
- Bojkova D, Westhaus S, Costa R, Timmer L, Funkenberg N, Korencak M, Streeck H, Vondran F, Broering R, Heinrichs S, Lang KS, Ciesek S. Sofosbuvir Activates EGFR-Dependent Pathways in Hepatoma Cells with Implications for Liver-Related Pathological Processes. *Cells.* 2020 Apr 17;9(4):1003. doi: 10.3390/cells9041003. PMID: 32316635; PMCID: PMC7225999.

Product data sheet



In vivo study

1. de Freitas CS, Higa LM, Sacramento CQ, Ferreira AC, Reis PA, Delvecchio R, Monteiro FL, Barbosa-Lima G, James Westgarth H, Vieira YR, Mattos M, Rocha N, Hoelz LVB, Leme RPP, Bastos MM, Rodrigues GOL, Lopes CEM, Queiroz-Junior CM, Lima CX, Costa VV, Teixeira MM, Bozza FA, Bozza PT, Boechat N, Tanuri A, Souza TML. Yellow fever virus is susceptible to sofosbuvir both in vitro and in vivo. PLoS Negl Trop Dis. 2019 Jan 30;13(1):e0007072. doi: 10.1371/journal.pntd.0007072. PMID: 30699122; PMCID: PMC6375661.
2. Ferreira AC, Zaverucha-do-Valle C, Reis PA, Barbosa-Lima G, Vieira YR, Mattos M, Silva PP, Sacramento C, de Castro Faria Neto HC, Campanati L, Tanuri A, Brüning K, Bozza FA, Bozza PT, Souza TML. Sofosbuvir protects Zika virus-infected mice from mortality, preventing short- and long-term sequelae. Sci Rep. 2017 Aug 25;7(1):9409. doi: 10.1038/s41598-017-09797-8. PMID: 28842610; PMCID: PMC5573375.

7. Bioactivity

Biological target:

Sofosbuvir is an HCV RNA replication inhibitor with an EC50 of 92 nM.

In vitro activity

This study suggests that sofosbuvir may have an impact on pathological processes in the liver via the induction of EGFR signaling. Sofosbuvir treatment enhanced translocation of EGFR into the nucleus and transactivation of factors associated with cell cycle progression, B-MYB and Cyclin D1. There were other pathways, especially the MAPK pathway, also activated during sofosbuvir treatment.

Reference: Cells. 2020 Apr; 9(4): 1003. <https://pubmed.ncbi.nlm.nih.gov/32316635/>

In vivo activity

Sofosbuvir may represent a novel therapeutic option for yellow fever treatment. Sofosbuvir protected yellow fever virus-infected neonatal Swiss mice and adult type I interferon receptor knockout mice (A129-/-) from mortality and weight loss.

Reference: PLoS Negl Trop Dis. 2019 Jan; 13(1): e0007072. <https://pubmed.ncbi.nlm.nih.gov/30699122/>

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.