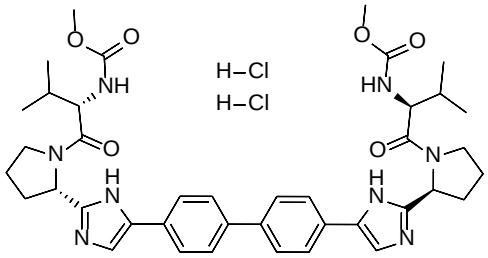
Product data sheet

MedKoo Cat#: 314245 Name: Daclatasvir dihydrochloride CAS#: 1009119-65-6 (HCl) Chemical Formula: $C_{40}H_{50}N_8O_6$ Exact Mass: 738.3853 Molecular Weight: 738.88	
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:
Daclatasvir (USAN), also known as BMS-790052 and EBP-883 (trade name Daklinza), is NS5A inhibitor and a drug for the treatment of hepatitis C (HCV). It is was developed by Bristol-Myers Squibb and was approved in Europe on 22 August 2014. Daclatasvir inhibits the HCV nonstructural protein NS5A. Recent research suggests that it targets two steps of the viral replication process, enabling rapid decline of HCV RNA. Daclatasvir has been tested in combination regimens with pegylated interferon and ribavirin, as well as with other direct-acting antiviral agents including asunaprevir and sofosbuvir.

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	78.0	105.56
Water	75.0	101.50
Ethanol	100.0	135.34

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.35 mL	6.77 mL	13.53 mL
5 mM	0.27 mL	1.35 mL	2.71 mL
10 mM	0.14 mL	0.68 mL	1.35 mL
50 mM	0.03 mL	0.14 mL	0.27 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

1. Wang C, Valera L, Jia L, Kirk MJ, Gao M, Fridell RA. In vitro activity of daclatasvir on hepatitis C virus genotype 3 NS5A. Antimicrob Agents Chemother. 2013 Jan;57(1):611-3. doi: 10.1128/AAC.01874-12. Epub 2012 Oct 22. PMID: 23089758; PMCID: PMC3535966.

In vivo study

1. Ibrahim MA, Abdel-Aziz A, El-Sheikh A, Kamel M, Khalil AZ, Abdelhaleem H. Hepatic effect of sofosbuvir and daclatasvir in thioacetamide-induced liver injury in rats. Clin Exp Hepatol. 2018 Sep;4(3):175-181. doi: 10.5114/ceh.2018.78121. Epub 2018 Sep 10. PMID: 30324142; PMCID: PMC6185925.

7. Bioactivity
Biological target: Daclatasvir dihydrochloride is a HCV NS5A protein inhibitor with EC50s range of 9-146 pM for multiple HCV replicon genotypes and an OATP1B and OATP1B3 inhibitor with IC50s of 1.5 μM and 3.27 μM, respectively.

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In vitro activity

The NS5A replication complex inhibitor daclatasvir (DCV; BMS-790052) inhibited hybrid replicons containing hepatitis C virus (HCV) genotype 3a (HCV3a) NS5A genes with 50% effective concentrations (EC50s) ranging from 120 to 870 pM. Daclatasvir potently inhibited HCV RNA replication by targeting the essential replication factor NS5A. In vitro, mutations that confer resistance to DCV were mapped to the N-terminal 93 amino acids of NS5A, with residues 28, 30, 31, and 93 being particularly prominent resistance-associated sites.

Reference: Antimicrob Agents Chemother. 2013 Jan;57(1):611-3. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3535966/

In vivo activity

The hepatic effect of direct acting anti-hepatitis C virus drug daclatasvir (Dac), in thioacetamide (TAA)-induced liver injury in rats was investigated. TAA rats treated with Dac showed significant amelioration of TAA-induced liver injury. These effects were accompanied by a significant reduction in TIMP-1, TNF-α and oxidative stress parameters in hepatic tissue. The hepatic effects of Dac in TAA-induced liver injury appeared to be mediated by anti-oxidant effects, and inhibition of TNF-α and TIMP-1.

Reference: Clin Exp Hepatol. 2018 Sep;4(3):175-181. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6185925/