

PRODUCT INFORMATION



Daclatasvir

Item No. 23730

CAS Registry No.: 1009119-64-5
Formal Name: N,N'-[[1,1'-biphenyl]-4,4'-diylbis[1H-imidazole-5,2-diyl-(2S)-2,1-pyrrolidinediyl[(1S)-1-(1-methylethyl)-2-oxo-2,1-ethanediy]]]bis-carbamic acid, C,C'-dimethyl ester

Synonym: BMS 790052

MF: C₄₀H₅₀N₈O₆

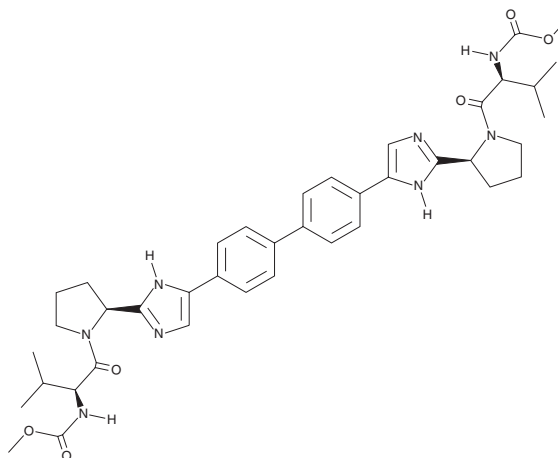
FW: 738.9

Purity: ≥95%

Supplied as: A solid

Storage: -20°C

Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Daclatasvir is supplied as a solid. A stock solution may be made by dissolving the daclatasvir in the solvent of choice. Daclatasvir is slightly soluble in DMSO and methanol.

Description

Daclatasvir is a first generation direct-acting inhibitor of hepatitis C virus (HCV) non-structural protein 5A (NS5A; K_ds = 8 and 210 nM for the NS5A³³⁻²⁰² and NS5A²⁶⁻²⁰² residues of HCV genotype 1b, respectively).^{1,2} It potently inhibits HCV replication in multiple HCV replicon genotypes (EC₅₀s = 9-146 pM) with the highest potency in genotypes 1b and 4a (EC₅₀s = 9 and 12 pM, respectively).¹ Daclatasvir disrupts the subcellular localization of NS5A in Huh7.5 cells and inhibits viral RNA synthesis and virion assembly and secretion when used at a concentration of 1 nM in HCV-infected Huh7 cells.^{3,4} Daclatasvir also inhibits organic anion transport polypeptides 1B1 (OAT1B1) and OAT1B3 (IC₅₀s = 1.5 and 3.27 μM, respectively).⁵ Formulations containing daclatasvir have been used alone and in combination with NS3/4A and NS5B inhibitors in the treatment of HCV.

References

1. Gao, M., Nettles, R.E., Belesa, M., *et al.* Chemical genetics strategy identifies an HCV NS5A inhibitor with a potent clinical effect. *Nature* **465(7294)**, 96-100 (2010).
2. Ascher, D.B., Wielens, J., Nero, T.L., *et al.* Potent hepatitis C inhibitors bind directly to NS5A and reduce its affinity for RNA. *Sci. Rep.* **4**, 4765 (2014).
3. Lee, C., Ma, H., Hang, J.Q., *et al.* The hepatitis C virus NS5A inhibitor (BMS-790052) alters the subcellular localization of the NS5A non-structural viral protein. *Virology* **414(1)**, 10-18 (2011).
4. Guedj, J., Dahari, H., Rong, L., *et al.* Modeling shows that the NS5A inhibitor daclatasvir has two modes of action and yields a shorter estimate of the hepatitis C virus half-life. *Proc. Nat. Acad. Sci. USA* **110(10)**, 3991-3996 (2013).
5. Furihata, T., Matsumoto, S., Fu, Z., *et al.* Different interaction profiles of direct-acting anti-hepatitis C virus agents with human organic anion transporting polypeptides. *Antimicrob. Agents Chemother.* **58(8)**, 4555-4565 (2014).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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