

## Product Data Sheet

Product Name: Imatinib-d3

Cat. No.: GC47452

### Chemical Properties

Cas. No. 1134803-18-1

SMILES O=C(NC1=CC=C(C)C(NC2=NC(C3=CC=CN=C3)=CC=N2)=C1)C(C=C4)=CC=C4CN5C  
CN(C([2H])([2H])[2H])CC5

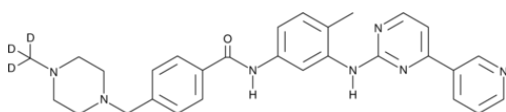
Formula C<sub>29</sub>H<sub>28</sub>D<sub>3</sub>N<sub>7</sub>O M.Wt 496.6

Solubility DMSO: slightly soluble, Methanol: slightly soluble Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



### Background

Imatinib-d<sub>3</sub> is intended for use as an internal standard for the quantification of imatinib by GC- or LC-MS. Imatinib is an inhibitor of the receptor tyrosine kinases c-Abl, Bcr-Abl, PDGFR, and c-Kit.<sup>1</sup> It inhibits ligand-stimulated autophosphorylation of PDGFR and c-Kit (IC<sub>50</sub>s = ~0.3 and ~0.1 μM, respectively).<sup>1,2</sup> Imatinib inhibits the proliferation of Bcr-Abl-dependent R10(-) cells (IC<sub>50</sub>s = ~35-40 nM) and HMC-1 cells expressing constitutively active c-Kit in a concentration-dependent manner.<sup>1,3</sup> It prolongs survival in a mouse model of chronic myeloid leukemia when administered at a dose of 100 mg/kg twice per day.<sup>4</sup> Imatinib (25 and 50 μM) also inhibits the replication of Middle East respiratory syndrome coronavirus (MERS-CoV) and severe acute respiratory syndrome CoV (SARS-CoV) in Vero E6 cells.<sup>5</sup> It reduces viral titers in Vero cells infected with infectious bronchitis virus (IBV), a coronavirus, when used at a concentration of 10 μM *via* inhibition of IBV surface glycoprotein protein-induced syncytia formation and virus-cell fusion.<sup>6</sup> Formulations containing imatinib have been

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

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

## Product Data Sheet

---

used in the treatment of various cancers.

1. Heinrich, M.C., Griffith, D.J., Druker, B.J., et al. Inhibition of c-kit receptor tyrosine kinase activity by STI 571, a selective tyrosine kinase inhibitor *Blood* 96(3)925-932(2000) 2. Buchdunger, E., Zimmermann, J., Mett, H., et al. Inhibition of the Abl protein-tyrosine kinase in vitro and in vivo by a 2-phenylaminopyrimidine derivative *Cancer Res.* 56(1)100-104(1996) 3. Wisniewski, D., Lambek, C.L., Liu, C., et al. Characterization of potent inhibitors of the Bcr-Abl and the c-kit receptor tyrosine kinases *Cancer Res.* 62(15)4244-4255(2002) 4. Wolff, N.C., Veach, D.R., Tong, W.P., et al. PD166326, a novel tyrosine kinase inhibitor, has greater antileukemic activity than imatinib mesylate in a murine model of chronic myeloid leukemia *Blood* 105(10)3995-4003(2005) 5. Coleman, C.M., Sisk, J.M., Mingo, R.M., et al. Abelson kinase inhibitors are potent inhibitors of severe acute respiratory syndrome coronavirus and Middle East respiratory syndrome coronavirus fusion *J. Virol.* 90(19)8924-8933(2016) 6. Sisk, J.M., Frieman, M.B., and Machamer, C.E. Coronavirus S protein-induced fusion is blocked prior to hemifusion by Abl kinase inhibitors *J. Gen. Virol.* 99(5)619-630(2018)

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

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA