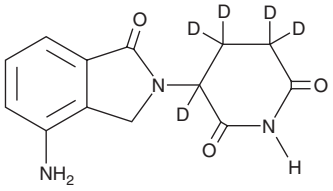
PRODUCT INFORMATION

Lenalidomide-d_5

Item No. 22370

CAS Registry No.: 1227162-34-6
Formal Name: 5-(4-amino-1,3-dihydro-1-oxo-2H-isoindol-2-yl)-2,6-piperidinedione-3,3,4,4,5-d_5
MF: $C_{13}H_8D_5N_3O_3$
FW: 264.3
Chemical Purity: ≥98% (Lenalidomide)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_5); ≤1% d_0
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

Lenalidomide-d_5 is intended for use as an internal standard for the quantification of lenalidomide (Item No. 14643) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Lenalidomide-d_5 is supplied as a solid. A stock solution may be made by dissolving the lenalidomide-d_5 in the solvent of choice, which should be purged with an inert gas. Lenalidomide-d_5 is soluble in methanol and DMSO.

Description

Lenalidomide is a derivative of the immunomodulatory compound thalidomide (Item No. 14610).[1] It reduces TNF-α production in isolated human peripheral blood mononuclear cells (PBMCs) and whole blood stimulated by LPS from *S. minnesota* (Item No. 23608; IC_{50}s = 13 and 25 nM, respectively). Lenalidomide has been used as a building block in the synthesis of PROTACs that induce the degradation of Ikaros family zinc finger protein 1 (IKZF1) and IKZF3 in MM.1S multiple myeloma cells.[2] Orally administered lenalidomide (250 mg/kg per day) reduces vascularization and total microvascular length in a rat mesenteric window assay.[3] Formulations containing lenalidomide have been used in the treatment of myelodysplastic syndrome and multiple myeloma.

References

1. Muller, G.W., Chen, R., Huang, S.Y., *et al.* Amino-substituted thalidomide analogs: Potent inhibitors of TNF-α production. *Bioorg. Med. Chem. Lett.* **9(11)**, 1625-1630 (1999).
2. Krönke, J., Udeshi, N.D., Narla, A., *et al.* Lenalidomide causes selective degradation of IKZF1 and IKZF3 in multiple myeloma cells. *Science* **343(6168)**, 301-305 (2014).
3. Dredge, K., Horsfall, R., Robinson, S.P., *et al.* Orally administered lenalidomide (CC-5013) is anti-angiogenic in vivo and inhibits endothelial cell migration and Akt phosphorylation in vitro. *Microvasc. Res.* **69(1-2)**, 56-63 (2005).

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