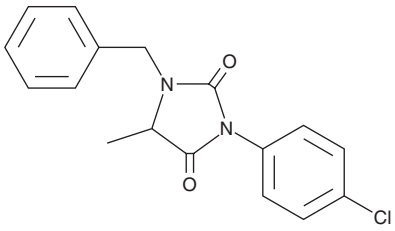
PRODUCT INFORMATION

ALLO-1

Item No. 17776

CAS Registry No.:	37468-32-9
Formal Name:	3-(4-chlorophenyl)-5-methyl-1-(phenylmethyl)-2,4-imidazolidinedione
MF:	$C_{17}H_{15}ClN_2O_2$
FW:	314.8
Purity:	≥98%
UV/Vis.:	λ_{max}: 220 nm
Supplied as:	A crystalline 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

ALLO-1 is supplied as a crystalline solid. A stock solution may be made by dissolving the ALLO-1 in the solvent of choice, which should be purged with an inert gas. ALLO-1 is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of ALLO-1 in these solvents is approximately 20 and 30 mg/ml, respectively.

ALLO-1 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, ALLO-1 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. ALLO-1 has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Hedgehog (Hh) proteins, important regulators of development, bind the cell-surface protein Patched, allowing activation of the GPCR-like receptor, Smoothened (SMO).[1] In vertebrates, this ultimately leads to the activation of the zinc-finger transcription factors of the Gli family. Overactivation of this pathway contributes to certain cancers.[2] ALLO-1 is a SMO antagonist that inhibits both wild-type (IC_{50} = 50 nM) and mutant SMO, including the D473H SMO mutant (IC_{50}s = 300-1000 nM).[3] This compound binds to the SMO cysteine-rich domain, which is a different mechanism of interaction compared to other known SMO ligands that bind the transmembrane pocket.[3,4]

References

1. Ruiz-Gómez, A., Molnar, C., Holguín, H., *et al.* The cell biology of Smo signalling and its relationships with GPCRs. *Biochim. Biophys. Acta* **1768(4)**, 901-912 (2007).
2. Rubin, L.L. and de Sauvage, F.J. Targeting the Hedgehog pathway in cancer. *Nat. Rev. Drug Discov.* **5(12)**, 1026-1033 (2006).
3. Tao, H., Jin, Q., koo, D.-I., *et al.* Small molecule antagonists in distinct binding modes inhibit drug-resistant mutant of smoothened. *Chem. Biol.* **18**, 432-437 (2011).
4. Sharpe, H.J., Wang, W., Hannoush, R.N., *et al.* Regulation of the oncoprotein Smoothened by small molecules. *Nat. Chem. Biol.* **11**, 246-255 (2015).

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