# PRODUCT INFORMATION

## Imiquimod-$d_9$

*Item No. 26424*

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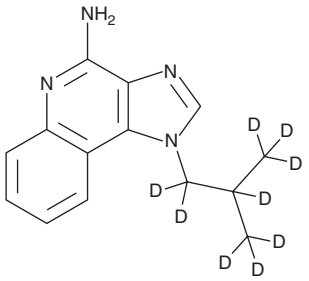
|---|---|
| **CAS Registry No.:** | 2712126-48-0 |
| **Formal Name:** | 1-(2-(methyl-$d_3$)propyl-1,1,2,3,3,3-$d_6$)-1H-imidazo[4,5-c]quinolin-4-amine |
| **MF:** | $C_{14}H_7D_9N_4$ |
| **FW:** | 249.4 |
| **Chemical Purity:** | ≥98% (Imiquimod) |
| **Deuterium Incorporation:** | ≥99% deuterated forms ($d_1$-$d_9$); ≤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

Imiquimod-$d_9$ is intended for use as an internal standard for the quantification of imiquimod (Item No. 14956) 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).

Imiquimod-$d_9$ is supplied as a solid. A stock solution may be made by dissolving the imiquimod-$d_9$ in the solvent of choice, which should be purged with an inert gas. Imiquimod-$d_9$ is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of imiquimod-$d_9$ in these solvents is approximately 1 mg/ml.

### Description

Imiquimod is an imidazoquinoline agonist of toll-like receptor 7 (TLR7; $EC_{50}$ = 2.12 µM).[1] It increases TNF-α and IL-12 p40 production in IFN-γ-treated murine peritoneal macrophages in a concentration- and MyD88-dependent manner.[2] Topical application of imiquimod (30 µl of 5% cream) increases TNF and IFN levels at the application site in hairless mice.[3] Imiquimod dose-dependently increases serum levels of IFN-α in mice when administered by gavage.[4] It reduces tumor growth in an MC-26 model of murine colon cancer when administered at a dose of 30 mg/kg every three days. Imiquimod (5 mg/kg, intravaginally, twice daily) reduces vaginal viral titer and lesion formation in a guinea pig model of genital HSV-2 infection.[5] Formulations containing imiquimod have been used in the treatment of actinic keratosis, superficial basal cell carcinoma, and external genital warts.

### References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2. Hemmi, H., Kaisho, T., Takeuchi, O., *et al. Nat. Immunol.* **3(2)**, 196-200 (2002).
3. Imbertson, L.M., Beaurline, J.M., Couture, A.M., *et al. J. Invest. Dermatol.* **110(5)**, 734-739 (1998).
4. Sidky, Y.A., Borden, E.C., Weeks, C.E., *et al. Cancer Res.* **52(13)**, 3528-3533 (1992).
5. Harrison, C.J., Jenski, L.J., Voychehovski, T., *et al. Antiviral Res.* **10(4-5)**, 209-223 (1988).





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