



LKT Laboratories, Inc.

Imiquimod

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Product Information

Product ID I5034

CAS No. 99011-02-6

Chemical Name 1-(2-Methyl-propyl)-1H-imidazol [4,5-c] quinolin- 4-amine

Synonym Aldara, R-837

Formula C₁₄H₁₆N₄

Formula Wt. 240.30

Melting Point 292-294 °C

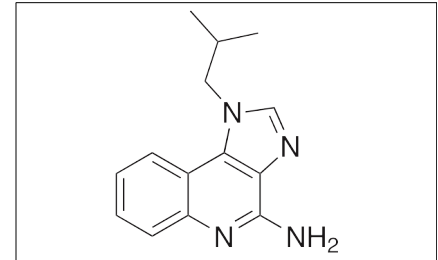
Purity ≥99.5%

Solubility Insoluble in water, DMSO (3 mg/mL) or DMF. slightly soluble in water (warm to 37 °C, vortex); insoluble in 100% ethanol

Store Temp Ambient

Ship Temp Ambient

Description Imiquimod is an imidazoquinoline nucleoside analog that exhibits immunostimulatory, antiviral, neuromodulatory, and anticancer chemotherapeutic activities. Imiquimod activates toll-like receptors 7 and 8 (TLR7, TLR8), stimulating a Th1-based immune response. In animal models of Japanese encephalitis virus infection, administration of imiquimod increases overall survival rates. Imiquimod induces apoptosis in squamous cell carcinoma and other surface layer cancer cells and inhibits growth of tumors in vivo by stimulating targeted T cell and dendritic cell infiltration to tumor sites. Imiquimod also inhibits hedgehog signaling in vitro by activating adenosine receptors and inhibiting GLI activity. Additionally, this compound inhibits TREK (KCNK2) and TRAAK (KCNK4) K⁺ channels and acts as a partial antagonist at K(v)1.1 and K(v)1.2 K⁺ channels, increasing action potential duration and excitability of dorsal root ganglion (DRG) neurons.



Bulk quantities available upon request

Product ID	Size
I5034	100 mg
I5034	500 mg
I5034	1 g
I5034	5 g

References Nazmi A, Mukherjee S, Kundu K, et al. TLR7 is a key regulator of innate immunity against Japanese encephalitis virus infection. *Neurobiol Dis.* 2014 Sep;69:235-47. PMID: 24909816.

Sohn KC, Li ZJ, Choi DK, et al. Imiquimod induces apoptosis of squamous cell carcinoma (SCC) cells via regulation of A20. *PLoS One.* 2014 Apr 17;9(4):e95337. PMID: 24743316.

Wolff F, Loipetzberger A, Gruber W, et al. Imiquimod directly inhibits Hedgehog signalling by stimulating adenosine receptor/protein kinase A-mediated GLI phosphorylation. *Oncogene.* 2013 Dec 12;32(50):5574-81. PMID: 23995793.

Yokogawa M, Takaishi M, Nakajima K, et al. Imiquimod attenuates the growth of UVB-induced SCC in mice through Th1/Th17 cells. *Mol Carcinog.* 2013 Oct;52(10):760-9. PMID: 22431065.

Lee J, Kim T, Hong J, et al. Imiquimod enhances excitability of dorsal root ganglion neurons by inhibiting background (K(2P)) and voltage-gated (K(v)1.1 and K(v)1.2) potassium channels. *Mol Pain.* 2012 Jan 11;8:2. PMID: 22233604.

Lee WR, Shen SC, Al-Suwayeh SA, et al. Skin permeation of small-molecule drugs, macromolecules, and nanoparticles mediated by a fractional carbon dioxide laser: the role of hair follicles. *Pharm Res.* 2013 Mar;30(3):792-802. PMID: 23138262.

Caution: This product is intended for laboratory and research use only. It is not for human or drug use.