

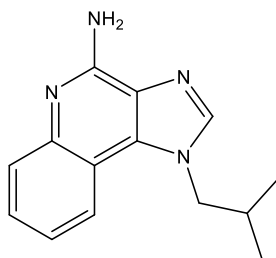
**Catalog # 10-4230**

**Imiquimod**

CAS# 99011-02-6

1-(2-Methylpropyl)imidazo[4,5-c]quinolin-4-amine; R837

Lot # FBS1116



Imiquimod is a Toll-like receptor 7 agonist with anti-viral and anti-tumor properties.<sup>1</sup> Enhances innate immune system leading to Th1-mediated antitumor immune response.<sup>2</sup> Increases levels of IFN $\alpha$ , TNF $\alpha$ , and IL-12. Imiquimod has also been shown to act as an antagonist at adenosine A1 and A2A receptors augmenting its proinflammatory effects.<sup>3,4</sup> Clinically useful for the treatment of basal cell carcinoma, actinic keratosis, and genital warts. Imiquimod also upregulates the expression of opioid growth factor receptor(OGFr).<sup>5,6</sup> OGF is involved in regulation of inhibitory kinases in the cell cycle process.

- 1) Hemmi *et al.* (2002), *Small anti-viral compounds activate immune cells via the TLR7 MyD88-dependent signaling pathway*; Nat.Immunol. **3** 196
- 2) Stanley *et al.* (2002), *Imiquimod and the imidazoquinolones: mechanism of action and therapeutic potential*; Clin.Exp.Dermatol. **27** 571
- 3) Schoen *et al.* (2006), *The small antitumoral immune response modifier imiquimod interacts with adenosine receptor signaling in a TLR7- and TLR8-independent fashion*; J.Invest.Dermatol. **126** 1338
- 4) Kan *et al.* (2012), *Imiquimod Suppresses Propagation of Herpes Simplex Virus 1 by Upregulation of Cystatin A via the Adenosine Receptor A<sub>1</sub> Pathway*; J.Virol. **86** 10338
- 5) Urosevic *et al.* (2004), *Imiquimod Treatment Induces Expression of Opioid Growth Factor Receptor*; Clin.Cancer Res. **10** 4959
- 6) Zagon *et al.* (2008), *Imiquimod Upregulates the Opioid Growth Factor Receptor to Inhibit Cell Proliferation Independent of Immune Function*; Exp.Biol.Med.(Maywood) **233** 968

**PHYSICAL DATA**

Molecular Weight:	240.30
Molecular Formula:	C <sub>14</sub> H <sub>16</sub> N <sub>4</sub>
Purity:	>98% by TLC
	NMR: (Conforms)
Solubility:	Soluble in DMSO (2 mg/mL with warming)
Physical Description:	White solid
Storage and Stability:	Store as supplied, desiccated at -20°C for up to 1 year from the date of purchase. Solutions in DMSO may be stored at -20°C for up to 1 month.

**Materials provided by Focus Biomolecules are for laboratory research use only and are not intended for human or veterinary applications.**