Imiquimod is a Toll-like receptor 7 agonist with anti-viral and anti-tumor properties. Enhances innate immune system leading to Th1-mediated antitumor immune response. Increases levels of IFNα, TNFα, and IL-12. Imiquimod has also been shown to act as an antagonist at adenosine A1 and A2A receptors augmenting its proinflammatory effects. 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). 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 A1 Pathway.; J.Virol. 86 10338
5) Urosevic et al. (2004), Imiquimod Treatment Induces Expression of Opioid Growth Factor Receptor; Clin.Cancer Res. 10 4959

**PHYSICAL DATA**

Molecular Weight: 240.30
Molecular Formula: C_{14}H_{16}N_{4}
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.