

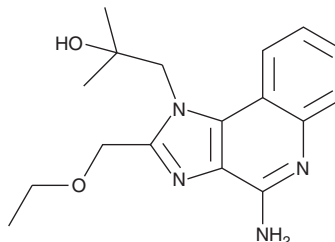
# PRODUCT INFORMATION



## R-848

Item No. 14806

**CAS Registry No.:** 144875-48-9  
**Formal Name:** 4-amino-2-(ethoxymethyl)- $\alpha,\alpha$ -dimethyl-1H-imidazo[4,5-c]quinoline-1-ethanol  
**Synonyms:** Resiquimod, S 28463  
**MF:** C<sub>17</sub>H<sub>22</sub>N<sub>4</sub>O<sub>2</sub>  
**FW:** 314.4  
**Purity:**  $\geq$ 98%  
**UV/Vis.:**  $\lambda_{\text{max}}$ : 249, 328 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:**  $\geq$ 4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

R-848 is supplied as a crystalline solid. A stock solution may be made by dissolving the R-848 in the solvent of choice, which should be purged with an inert gas. R-848 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of R-848 in these solvents is approximately 3.3, 12.5, and 16 mg/ml, respectively.

R-848 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, R-848 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. R-848 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

R-848 is an immune response modifier that mimics the pathogen-associated molecular patterns that activate immune cells through Toll-like receptor 7 (TLR7) and TLR8. It demonstrates potent anti-tumor and anti-viral properties and has been used to study the innate immune response to viral infections.<sup>1-3</sup> At 1  $\mu$ g/ml, R-848 mimics CD40-induced B cell activation and can be used to induce the production of IFN- $\gamma$  and various other cytokines.<sup>4,5</sup>

### References

- Bernstein, D.I., Harrison, C.J., Tomai, M.A., *et al.* Daily or weekly therapy with resiquimod (R-848) reduces genital recurrences in herpes simplex virus-infected guinea pigs during and after treatment. *J. Infect. Dis.* **183**(6), 844-849 (2001).
- Nian, H., Geng, W.-Q., Cui, H.-L., *et al.* R-848 triggers the expression of TLR7/8 and suppresses HIV replication in monocytes. *BMC Infect. Dis.* **12**, 5 (2012).
- Hattermann, K., Picard, S., Borgeat, M., *et al.* The toll-like receptor 7/8-ligand resiquimod (R-848) primes human neutrophils for leukotriene B<sub>4</sub>, prostaglandin E<sub>2</sub> and platelet-activating factor biosynthesis. *FASEB J.* **21**(7), 1575-1585 (2007).
- Bishop, G.A., Hsing, Y., Hostager, B.S., *et al.* Molecular mechanisms of B lymphocyte activation by the immune response modifier R-848. *J. Immunol.* **165**(10), 5552-5557 (2000).
- Caron, G., Duluc, D., Frémaux, I., *et al.* Direct stimulation of human T cells via TLR5 and TLR7/8: Flagellin and R-848 up-regulate proliferation and IFN-g production by memory CD4<sup>+</sup> T cells. *J. Immunol.* **175**(3), 1551-1557 (2005).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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