

R848 (Resiquimod)

Imidazoquinoline compound; TLR7/8 ligand

Catalog code: tlr1-r848, tlr1-r848-5

<https://www.invivogen.com/r848>

For research use only

Version 19111-MM

PRODUCT INFORMATION

Contents

- R848 is provided lyophilized and is available in two quantities:
 - 500 µg: tlr1-r848
 - 5 mg: tlr1-r848-5

Note: R848 is sterile filtered prior to lyophilization.

- endotoxin-free water; 1.5 ml with #cat. code tlr1-r848 and 10 ml with #cat. code tlr1-r848-5

Storage and stability

- R848 is shipped at room temperature. Store lyophilized product at 4°C or -20°C.

- Upon resuspension, prepare aliquots of R848 and store at -20°C. Resuspended product is stable for 6 months when properly stored. Avoid repeated freeze-thaw cycles.

Quality control

- Purity: ≥95% (UHPLC)
- TLR7 and TLR8 activity have been tested using HEK-Blue™ TLR7 and HEK-Blue™ TLR8 cells.
- The absence of bacterial contamination (e.g. lipoproteins and endotoxins) has been confirmed using HEK-Blue™ TLR2 and HEK-Blue™ TLR4 cells.

DESCRIPTION

R848 (Resiquimod) is an imidazoquinoline compound with potent anti-viral activity. This low molecular weight synthetic molecule activates immune cells via the TLR7/TLR8 MyD88-dependent signaling pathway^{1,2}. R848 was shown to trigger NF-κB activation in cells expressing murine TLR8 when combined with poly(dT)³. Unlike other commercially available R848 preparations, InvivoGen's R848 is water soluble, validated for TLR7/8 potency and tested to ensure the absence of TLR2 or TLR4 contamination (see Quality control above).

1. Hemmi H. *et al.* 2002. Small anti-viral compounds activate immune cells via the TLR7 MyD88-dependent signaling pathway. *Nat Immunol*, 3(2):196-200. 2. Jurk M. *et al.* 2002. Human TLR7 or TLR8 independently confer responsiveness to the antiviral compound R848. *Nat Immunol*, 3(6):499. 3. Gorden KKB. *et al.*, 2006. Cutting Edge: Activation of Murine TLR8 by a Combination of Imidazoquinoline Immune Response Modifiers and PolyT Oligodeoxynucleotides *J. Immunol.* 177:6584-7.

CHEMICAL PROPERTIES

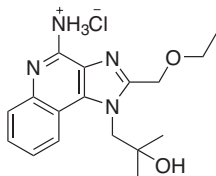
CAS number: 144875-48-9 (free base)

Formula: C₁₇H₂₂N₄O₂ • HCl

Molecular weight: 350.8

Solubility: 1 mg/ml in water

Structure:



METHODS

Preparation of R848 stock solution (1 mg/ml)

Stimulation of TLR7 can be achieved with 10 ng-10 µg/ml R848, and stimulation of TLR8 with 100 ng-10 µg/ml R848.

- Resuspend R848 with the endotoxin-free water provided.
 - Add 500 µl to 500 µg
 - Add 5 ml to 5 mg
- Vortex until completely dissolved. Prepare aliquots and store at -20°C.

TLR stimulation of HEK-Blue™ cells with R848

R848 can be used to stimulate TLR7 or TLR8 in HEK-Blue™ TLR7 or TLR8 cells. These cells stably express an NF-κB-inducible secreted embryonic alkaline phosphatase (SEAP) and overexpress the TLR7 or the TLR8 gene.

For more information visit: <https://www.invivogen.com/hek-blue-tlr>

1. Stimulate HEK-Blue™ TLR7 or TLR8 cells with 10 ng-10 µg/ml R848.
2. Incubate for 6-24 h at 37°C, 5% CO₂.
3. Determine TLR stimulation using a SEAP detection medium, such as QUANTI-Blue™ or HEK-Blue™ Detection or by assessing cytokine expression using an ELISA.

RELATED PRODUCTS

Product	Catalog Code
HEK-Blue™ hTLR7 Cells	hkb-htlr7
HEK-Blue™ mTLR7 Cells	hkb-mtlr7
HEK-Blue™ hTLR8 Cells	hkb-htlr8
HEK-Blue™ mTLR8 Cells	hkb-mtlr8
Poly(dT)	tlr1-pt17
HEK-Blue™ Detection	hb-det2
QUANTI-Blue™	rep-qb1
TLR7 ligands:	
CL264	tlr1-c264s
Gardiquimod™	tlr1-gdqs
Imiquimod (R837)	tlr1-imqs
TLR8 ligands:	
ssRNA40/LyoVec™	tlr1-lrna40
ORN06/LyoVec™	tlr1-orn6

TECHNICAL SUPPORT

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