

Adilipoline™ (CL413)

Dual TLR2 and TLR7 ligand

Catalog code: tlr1-c413

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

For research use only

Version 23A27-MM

PRODUCT INFORMATION

Contents

- 500 µg of Adilipoline™ (CL413)
- 1.5 ml of endotoxin-free water

Storage and stability

- Adilipoline™ (CL413) is shipped at room temperature. Upon receipt, store at -20 °C.
- Upon resuspension, store at 4°C. Resuspended product is stable for 6 months at 4 °C. Do **not** store resuspended product in plastic tubes.

Quality Control:

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

DESCRIPTION

Adilipoline™ (CL413) was generated by conjugation of an 8-hydroxyadenine moiety to the terminal acid function of Pam2CSK4. Adilipoline™ (CL413) has the ability to efficiently stimulate both TLR7 and TLR2. Intratumoral injection of Adilipoline™ (50 µg/mouse) in established B16 tumors resulted in tumor regression (data in InvivoGen Insight Spring 2013).

APPLICATIONS

Adilipoline™ (CL413) can be used *in vitro* to stimulate TLR2 and TLR7 or in animal models for its antitumoral activity.

BACKGROUND

InvivoGen has developed a series of novel molecules designed to induce potent immune responses through the combined activation of several pattern recognition receptors (PRRs) that trigger different innate immune signaling pathways. These molecules are agonists for TLR2, TLR7 or both. Agonists that activate TLR2 are derived from the well-established TLR2 ligand, Pam2CSK4, and those recognized by TLR7 are derived from the 8-hydroxyadenine derivative CL264, a TLR7 agonist recently developed by InvivoGen (see Related Products). TLR2 and TLR7 are two PRRs with distinct characteristics. TLR2 is a cell surface receptor expressed by many cell types, while TLR7 is an endosomal receptor expressed predominantly in plasmacytoid dendritic cells (pDC) and to a lesser extent in B cells. TLR2 signaling triggers the NF-κB pathway and the production of pro-inflammatory cytokines, such as TNF-α, whereas TLR7 signaling induces mainly the IRF pathway and the production of IFN-α. Combined activation of these different pathways results in robust immune responses with potential therapeutic effects. InvivoGen's multi-PRR agonists are promising candidates for antitumor and vaccine applications.

CHEMICAL PROPERTIES

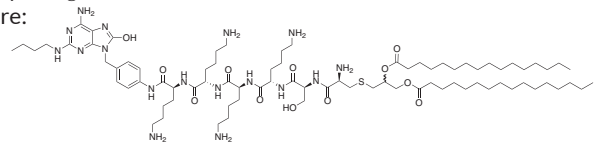
Synonym: S-(2,3-bis(palmitoyloxy)-(2RS)propyl)-(R)-cysteinyl-(S)-seryl-(S)-lysyl-(S)-lysyl-(S)-lysyl-(S)-lysyl 4-((6-amino-2-(butylamino)-8-hydroxy-9H-purin-9-yl)methyl) aniline

Formula: C₈₁H₁₄₅N₁₇O₁₂S

Molecular weight: 1581 g/mol

Solubility: 1 mg/ml in water

Structure:



METHODS

Preparation of stock solution (1 mg/ml)

1. Add 500 µl water to 500 µg Adilipoline™ (CL413).
2. Vortex until completely dissolved. Do **not** store resuspended product in plastic tubes.

Working concentrations: 50 pg - 10 µg/ml (~30 pM - 10 µM)

TLR stimulation using HEK-Blue™ cells

Adilipoline™ (CL413) can be used to stimulate TLR2 in HEK-Blue™ TLR2 cells and TLR7 in HEK-Blue™ TLR7 cells. These cells stably express an NF-κB-inducible secreted embryonic alkaline phosphatase (SEAP) and overexpress the appropriate TLR gene.

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

1. Stimulate HEK-Blue™ TLR2 cells with 50 pg-100 ng/ml of Adilipoline™ (CL413) and HEK-Blue™ TLR7 cells with 100 ng-10 µg/ml of Adilipoline™ (CL413).
2. Incubate for 6-24 h at 37°C, 5% CO₂.
3. Determine TLR stimulation using a SEAP detection medium, such as QUANTI-Blue™ Solution or HEK-Blue™ Detection or by assessing cytokine expression using an ELISA.

RELATED PRODUCTS

Product	Description	Cat.Code
HEK-Blue™ Detection	SEAP detection medium	hb-det2
HEK-Blue™ hTLR2 Cells	hTLR2 reporter cells	hkb-htlr2
HEK-Blue™ hTLR7 Cells	hTLR7 reporter cells	hkb-htlr7
Pam2CSK4	TLR2 ligand	tlr1-pm2s-1
QUANTI-Blue™ Solution	SEAP detection reagent	rep-qbs
R848 (Resiquimod)	TLR7/8 ligand	tlr1-r848

TECHNICAL SUPPORT

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