

TPC2-A1-P biochemical

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CATALOG #
AAA227214

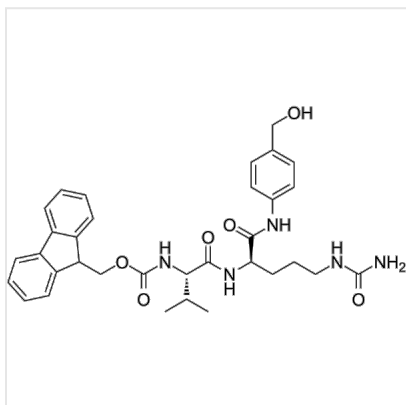
PRODUCT SYNONYMS

TPC2-A1-P; TPC2-A1-P biochemical

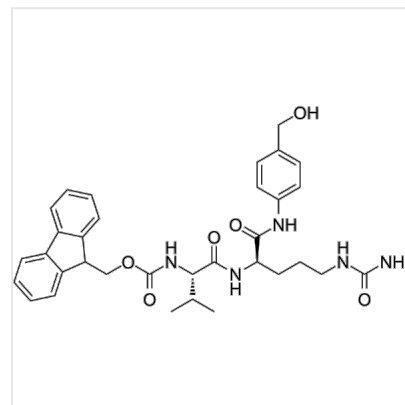
PRODUCT SPECIFICATIONS

Purity/Purification	98%
Solubility	DMSO: 50 mg/mL (108.63 mM), Need ultrasonic <1mg/ml refers to the product slightly soluble or insoluble
In vitro	Two-pore channels (TPC1-3) are ancient members of the voltage-gated ion channel superfamily. TPCs are expressed throughout the endo-lysosomal system and regulates the trafficking of various cargoes[1]. TPC2 can mediate different physiological and possibly pathophysiological effects depending on how it is activated. The ion selectivity of TPC2 is not fixed but rather agonist-dependent. TPC2 is a unique example of an ion channel that conducts different ions in response to different activating ligands[1]. TPC2-A1-P (10 μ M) reproducibly evokes Ca^{2+} signals, and TPC2-A1-P response reaches its plateau slower than TPC2-A1-N. The EC ₅₀ in full concentration-effect relationships for the plateau response is 10.5 μ M for TPC2-A1-P in a cell line stably expressing TPC2L11A/L12A. TPC2-A1-P (10-30 μ M) induces Ca^{2+} signals in HeLa cells expressing TPC2 in the presence but not absence of extracellular Ca^{2+} . However, the responses are smaller and delayed compared to TPC2-A1-N, consistent with the results obtained in cells stably expressing TPC2L11A/L12A. TPC2-A1-P fails to induce Ca^{2+} signals in cells expressing 'pore-dead' TPC2L11A/L12A/L265P and also fails to evoke Ca^{2+} signals in cells expressing human TRPML1 re-routed to the plasma membrane (TRPML1 Δ NC)[1]. In endo-lysosomal patch-clamp experiments, TPC2-A1-P (10 μ M) evokes currents in endo-lysosomes isolated from cells expressing TPC2 and TPC2M484L, the currents evoked by TPC2-A1-P are significantly larger than those evoked by TPC2-A1-N in both wild-type and gain-of-function variant, and exhibits an EC ₅₀ value of 0.6 μ M for TPC2-A1-P[1].
Preparation and Storage	Powder: -20 degree C for 3 years In solvent: -80 degree C for 2 years

IMAGES



Structure
Fmoc-Val-D-Cit-PAB, CAS 1350456-67-5



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ADDITIONAL INFORMATION

Related Product Information for TPC2-A1-P biochemical	TPC2-A1-P is a powerful and membrane permeable agonist of two pore channel 2 (TPC2) with an EC50 of 10.5 uM. TPC2-A1-P plays its role by mimicking the physiological actions of PI(3,5)P2. TPC2-A1-P also shows higher potency to induce Na2+ mobilisation from TPC2 than TPC-A1-N. TPC2-A1-P can be used to probe different functions of TPC2 channels in intact cells[1][2][3].
References	1. Mondal D, et al. Improved Methodology for the Synthesis of a Cathepsin B Cleavable Dipeptide Linker, Widely Used in Antibody-Drug Conjugate Research. Tetrahedron Lett. 2018;59(40):3594-3599.

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://www.aaabiotech.com/biochemical/tpc2-a1-p/227214>