Certificate of Analysis

Product Name: **YM 254890** **Catalog No.: 7352** **Batch No.: 10**

CAS Number: 568580-02-9

IUPAC Name: (*R*)-1-((3*S*,6*S*,9*S*,12*S*,18*R*,21*S*,22*R*)-21-acetamido-18-benzyl-3-((*R*)-1-methoxyethyl)-4,9,10,12,16,22-hexamethyl-15-methylene-2,5,8,11,14,17,20-heptaoxo-1,19-dioxa-4,7,10,13,16-pentaazacyclodocosan-6-yl)-2-methylpropyl (2*S*,3*R*)-2-acetamido-3-hydroxy-4-methylpentanoate

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{46}H_{69}N_7O_{15}$

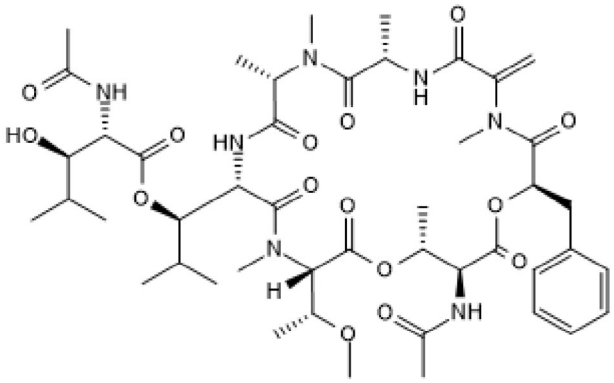
Batch Molecular Weight: 960.09

Physical Appearance: Off White lyophilised solid

Solubility: DMSO to 10 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 95.0% purity

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Description:

YM 254890 is a G_{α}-protein inhibitor. Potently inhibits $G_{q/11}$ heterotrimeric G protein signaling. Inhibits ATP/UTP-induced Ca^{2+} increase in HCAE cells expressing $P2Y_2$ receptor (IC_{50} = 50 nM); carbachol-induced production of IP_1 in CHO cells expressing M_1 receptor (IC_{50} = 95 nM); and ADP-induced Ca^{2+} increase in platelets, in vitro (IC_{50} = 2 µM). Also inhibits G_s-induced cAMP elevation and G protein-coupled MAPK/ERK signaling.

Physical and Chemical Properties:

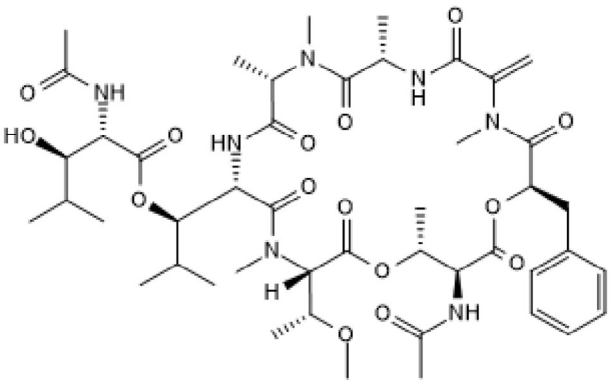
Batch Molecular Formula: $C_{46}H_{69}N_7O_{15}$

Batch Molecular Weight: 960.09

Physical Appearance: Off White lyophilised solid

Minimum Purity: ≥95%

Batch Molecular Structure:



Storage: Store at -20°C

Solubility & Usage Info:

DMSO to 10 mM

This product is supplied in lyophilized form. It may appear as a solid, gel or film and be very hard to visualize. Solutions should be made by adding solvent directly to the vial. The vial should then be vortexed vigorously to ensure the product has completely dissolved.

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Peng *et al* (2021) Functional evidence for biased inhibition of G protein signaling by YM-254890 in human coronary artery endothelial cells. Eur.J.Pharmacol. ***891*** 173706. PMID: 33152337.

Schlegel *et al* (2021) Macrocyclic G_q protein inhibitors FR900359 and/or YM-254890-fit for translation? ACS Pharmacol.Transl.Sci. ***4*** 888. PMID: 33860209.

Xiong *et al* (2019) Structure-activity relationship studies of the natural product $G_{q/11}$ protein inhibitor YM-254890. Chem.Med.Chem. ***14*** 865. PMID: 30790465.