

TB-500 Peptide

Cat. No. TBGZ-001

Lot. No. (See product label)

Introduction

Description

TB-500 Peptide is a synthetic peptide corresponding to an active region of thymosin β_4 and is reported to have anti-fibrotic and wound-healing activity associated with inhibition of the Akt signaling pathway and binding to actin.

Synonyms

TB500; TB 500; TB-500

Product Information

Appearance

White to off-white solid

Form

Solid

CAS No.

885340-08-9

Molecular Formula

$C_{38}H_{68}N_{10}O_{14}$

Molecular Weight

889.01

Purity

99.57%

Activity

Anti-fibrotic and wound-healing activity

Pathway

Akt signaling pathway; purinergic P2 receptor signaling

Function

TB-500 is reported to support tissue repair and regeneration. Its active fragment Ac-T β 4₁₇₋₂₃ prevents apoptosis, promotes cell survival and angiogenesis, stimulates T-cell proliferation, and shows immunomodulatory activity.

Targets

Actin; purinergic P2 receptors

Solubility

H₂O: $\geq$ 200 mg/mL (224.97 mM). The saturation concentration was not determined.

Amino Acid Sequence

N-Acetyl-Leu-Lys-Lys-Thr-Glu-Thr-Gln

Quality

Selected batch documentation lists purity 99.98%, assay 99.98%, and ee 99.98%.

Protocol

Stock solution preparation in H₂O (required solvent volume): 1 mM — 1 mg: 1.1248 mL; 5 mg: 5.6242 mL; 10 mg: 11.2485 mL; 25 mg: 28.1212 mL 5 mM — 1 mg: 0.2250 mL; 5 mg: 1.1248 mL; 10 mg: 2.2497 mL; 25 mg: 5.6242 mL 10 mM — 1 mg: 0.1125 mL; 5 mg: 0.5624 mL; 10 mg: 1.1248 mL; 25 mg: 2.8121 mL 15 mM — 1 mg: 0.0750 mL; 5 mg: 0.3749 mL; 10 mg: 0.7499 mL; 25 mg: 1.8747 mL 20 mM — 1 mg: 0.0562 mL; 5 mg: 0.2812 mL; 10 mg: 0.5624 mL; 25 mg: 1.4061 mL 25 mM — 1 mg: 0.0450 mL; 5 mg: 0.2250 mL; 10 mg: 0.4499 mL; 25 mg: 1.1248 mL 30 mM — 1 mg: 0.0375 mL; 5 mg: 0.1875 mL; 10 mg: 0.3749 mL; 25 mg: 0.9374 mL 40 mM — 1 mg: 0.0281 mL; 5 mg: 0.1406 mL; 10 mg: 0.2812 mL; 25 mg: 0.7030 mL 50 mM — 1 mg: 0.0225 mL; 5 mg: 0.1125 mL; 10 mg: 0.2250 mL; 25 mg: 0.5624 mL 60 mM — 1 mg: 0.0187 mL; 5 mg: 0.0937 mL; 10 mg: 0.1875 mL; 25 mg: 0.4687 mL 80 mM — 1 mg: 0.0141 mL; 5 mg: 0.0703 mL; 10 mg: 0.1406 mL; 25 mg: 0.3515 mL 100 mM — 1 mg: 0.0112 mL; 5 mg: 0.0562 mL; 10 mg: 0.1125 mL; 25 mg: 0.2812 mL

Usage and Packaging

Preparation Instructions

Select the solvent according to the solubility information. After preparing a stock solution, aliquot it to avoid repeated freeze-thaw cycles. If water is used for the stock solution, dilute it to the working concentration and sterilize by filtration through a 0.22 µm filter before use.

Storage and Shipping Information

Storage

Store sealed under nitrogen and protect from moisture and light. Powder: -80°C for 2 years or -20°C for 1 year. In solution: -80°C for 6 months or -20°C for 1 month under the same sealed, moisture- and light-protected conditions.

Shipping Conditions

Room temperature; shipping conditions may vary by destination.