IMMOBAZYME - INSTRUCTION MANUAL

SH-OLIGOPEPTIDE-1

PRODUCT OUTLINE

PRODUCT NAME
sh-Oligopeptide-1

MANUFACTURER
Immobazyme (Pty) Ltd

BATCH DETAILS
CAS: 62253-63-8 | LOT: 20250123-EGF

Product Specification & Protocol sh-Oligopeptide-1

PRODUCT INFORMATION

sh-Oligopeptide-1 is a bio-identical, synthetic version of the naturally occurring protein, epidermal growth factor (EGF).

Immobazyme's recombinant sh-Oligopeptide-1 is expressed in *E. coli* and purified using immobilised metal ion affinity chromatography, ensuring high purity and consistency. Engineered as a fusion protein, our sh-Oligopeptide-1 features enhanced stability and solubility, optimising its efficacy in biological applications.

Renowned for its ability to stimulate cell growth and tissue regeneration, this growth factor is widely used in wound healing and regenerative medicine. Additionally, its role in promoting skin renewal, collagen synthesis, and hydration makes it a sought-after ingredient in advanced cosmetic formulations, offering anti-aging and skin-repair benefits.

PRODUCT SPECIFICATION

For Research Use only

Grade	Food-safe, Allergen-free
Amount	4.5 mg per vial
Molecular Weight	23.9 kDa (with fusion protein)
Production System	*E. coli*
Protein Information	Recombinant sh-Oligopeptide-1 is a monomeric fusion peptide with enhanced stability and solubility
Purification Method	Sequential chromatography (IMAC and desalting)
Filtration	Filtered through a 0.22 μm sterile filter
Sterility	Sterile
Mycoplasma	Absent
Form	Liquid
Purity	>95%
Formulation	10 mM Na^2HPO4, 1.8 mM KH^2PO4, 2.7 mM KCl, 100 mM NaCl, pH 7.0, 2% Dextran T40

WORKING CONCENTRATION

The recommended working concentration of sh-Oligopeptide-1 is 5-10 μg/mL in the final product; depending on the desired application.

Storage Instructions:

- Store liquid vials at −20°C for up to 6 months.
- If stored at 4°C, use within 1 week.

QUALITY CONTROL & PERFORMANCE TESTING

Purity verification: SDS-PAGE and Coomassie staining

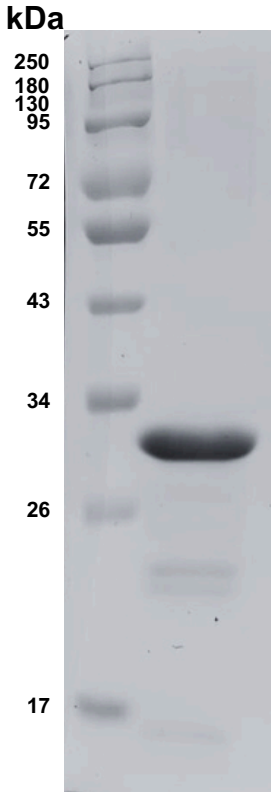

Figure 1. sh-Oligopeptide-1 (LOT: 20250123-EGF) run on an SDS-PAGE gel after lyophilisation. A prominent band representing sh-Oligopeptide-1 was present with ±90% purity.

Effect of sh-Oligopeptide-1 on HaCaT cell proliferation

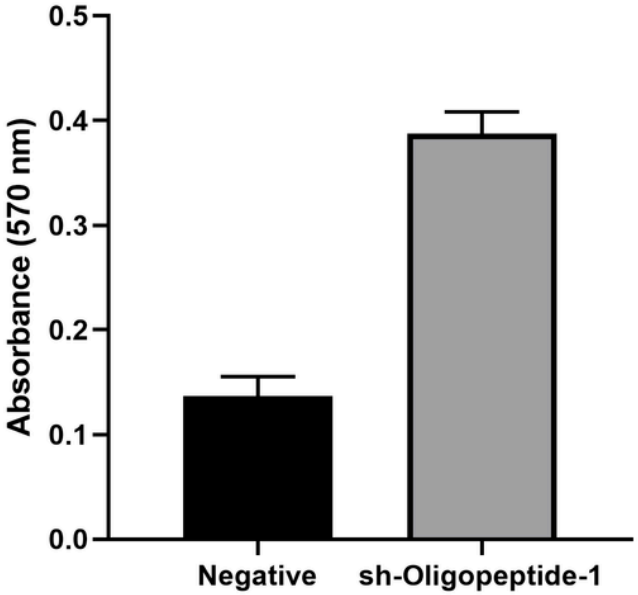

Figure 2. Effect of sh-Oligopeptide-1 (20250123-EGF) on HaCaT keratinocyte cell proliferation, tested over 48 hours.

This bar graph illustrates the effect of sh-Oligopeptide-1 on the proliferation of HaCaT keratinocyte cells after 48 hours. The y-axis represents the absorbance value measured at 570 nm, indicating relative cell proliferation. The x-axis presents the tested samples; a negative control of HaCaT cells in the absence of sh-Oligopeptide-1, and HaCaT cells treated with 2.5 ng/mL of sh-Oligopeptide-1. The results demonstrates a significant improvement in HaCaT cell proliferation when in the presence of sh-Oligopeptide-1.

Absence of mycoplasma

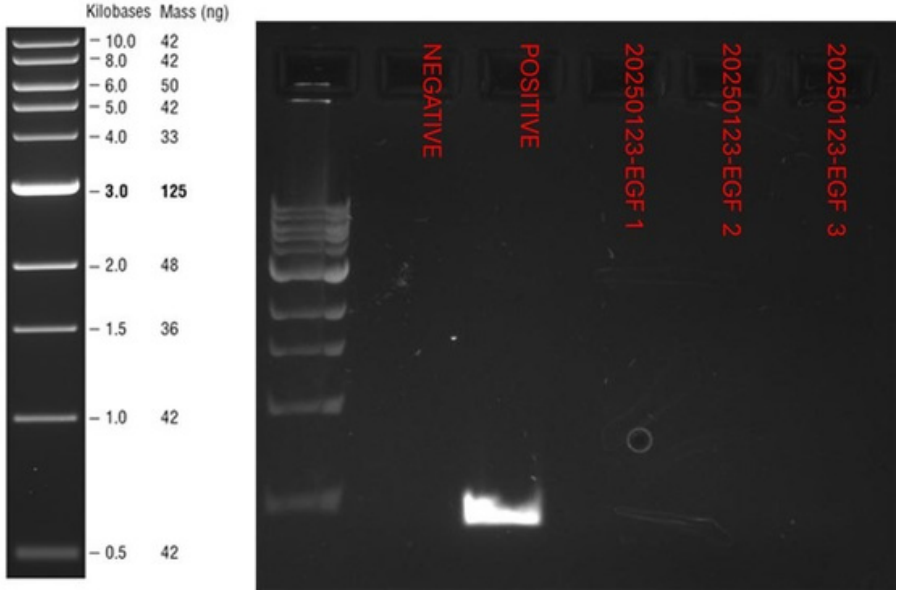

Figure 3. Mycoplasma detection via PCR on sh-Oligopeptide-1 (LOT: 20250123-EGF).

No amplification of the PCR product indicates that the samples are free of the mycoplasma contamination.

Observation of sh-Oligopeptide-1 treated HaCaT cells

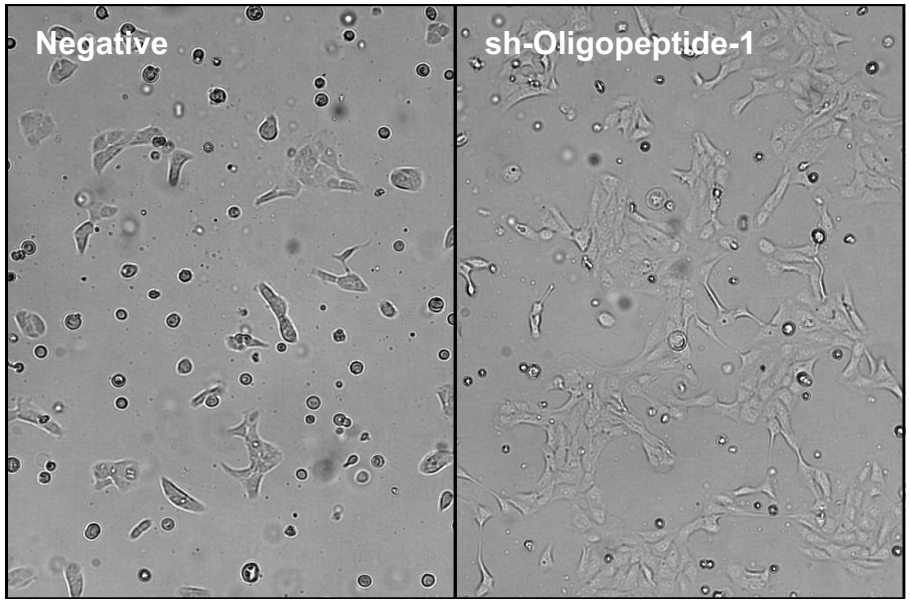

Figure 4. Microscopic observation of HaCaT cells treated with 2.5 ng/mL of sh-oligopeptide-1, after 48 hours.

Not for diagnostic or therapeutic use.

Effect of sh-Oligopeptide-1 on cell migration

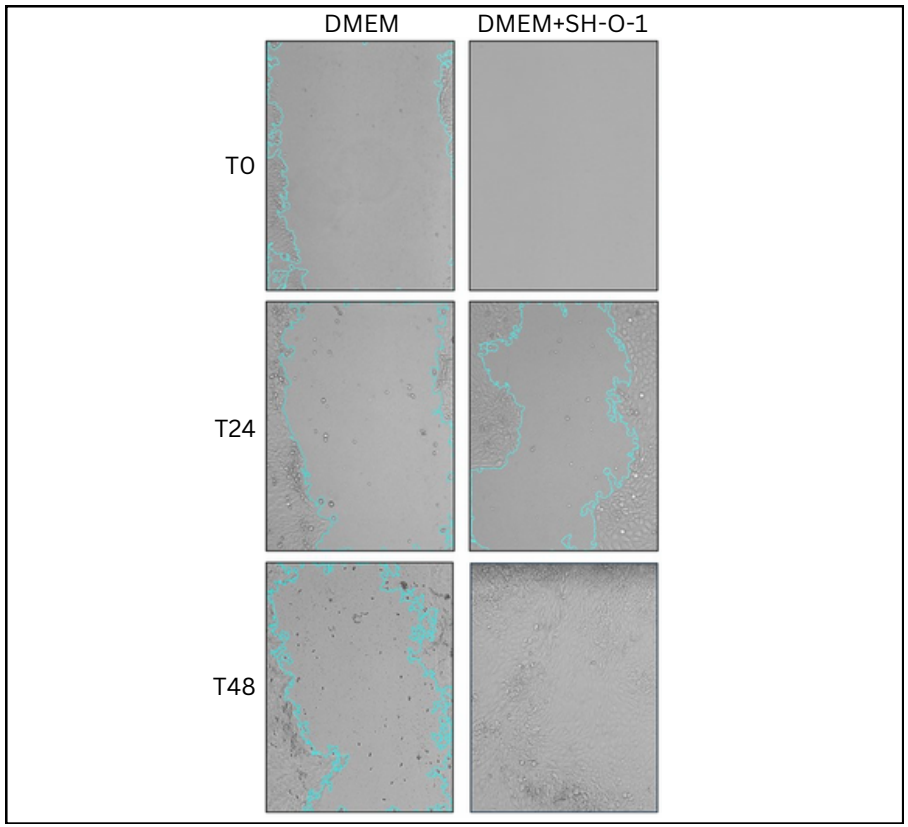

Figure 5. A scratch assay showing the effect of SH-Oligopeptide-1 on cell migration over 48 hours. Representative phase-contrast images were taken at 0 hours (T0), 24 hours (T24), and 48 hours (T48). The left column represents the control condition (DMEM), while the right column represents cells treated with DMEM supplemented with SH-Oligopeptide-1. The initial wound area is outlined in blue. In the control condition, the wound closure is limited over time. In contrast, cells treated with SH-O-1 exhibit significantly enhanced migration, resulting in near-complete wound closure by 48 hours. This demonstrates the pro-migratory effect of SH-O-1 in promoting cell proliferation and wound healing.