

PeptiGrowth Inc.

## PeptiGrowth Inc. is Launching a Novel Synthetic Peptide: IL-15 alternative peptide

PeptiGrowth Inc. (Headquarters: Chiyoda-ku, Tokyo, President: Jun Minamitani) has successfully developed a novel synthetic peptide called “IL-15 alternative peptide” which is functionally equivalent to recombinant interleukin 15 (IL-15). This product will be on the market in December 2025.

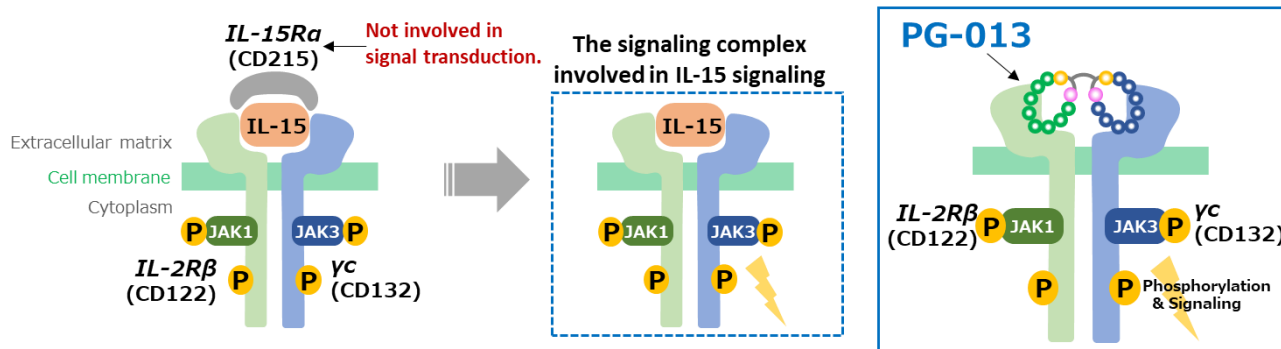
### Development of Synthetic Peptide Growth Factors by PeptiGrowth

Conventional growth factors and cytokines used in the manufacturing of regenerative medicine and cell therapy products face various quality challenges such as lot-to-lot variation, potential contamination with biological impurities, low stability, and high cost. PeptiGrowth has been working on the development of a series of synthetic peptides that can address these challenges while maintaining equivalent function to the conventional growth factors and cytokines on the market. Our peptides are completely chemically synthesized and animal component-free, enabling Xeno-free and chemically defined cell culture media.

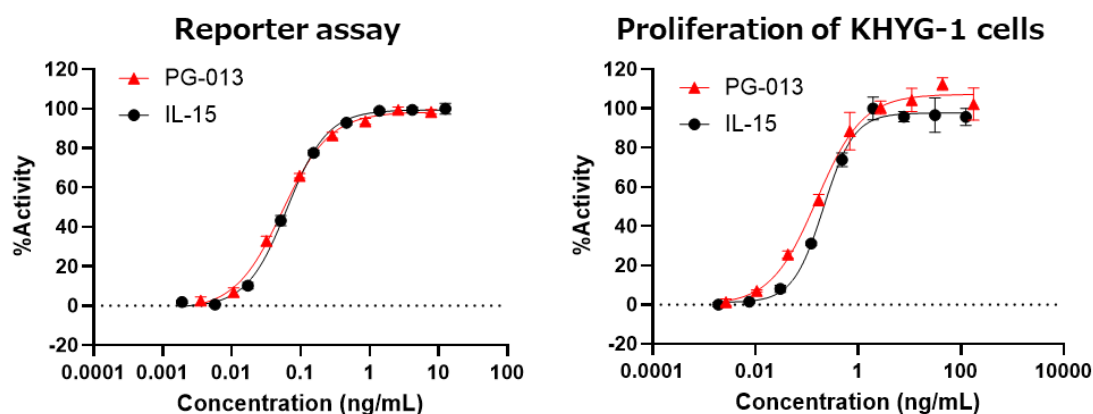
### About IL-15 alternative peptide [Product code: PG-013]

#### ➤ Mechanism of activating IL-15 signaling by the IL-15 alternative peptide (PG-013)

PG-013 is a heterodimeric peptide composed of two cyclic peptide components that specifically bind to IL-2R $\beta$  and the common  $\gamma$ -chain ( $\gamma_c$ ). By simultaneously engaging these receptor subunits, PG-013 induces their dimerization and activates downstream signaling pathways, resulting in IL-15-like biological activity (see diagram below).



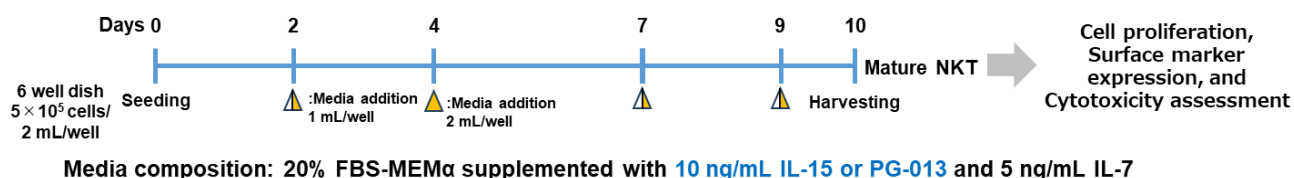
➤ Comparable ability to rhIL-15: activation of signaling pathway and promotion of cell proliferation



We compared the functional activity of PG-013 with commercially available recombinant human IL-15 (IL-15) using a reporter assay (JAK1/3–STAT5 signaling pathway) and a proliferation assay using human NK cell line, KHYG-1. As shown in the figures, PG-013 demonstrated comparable reporter gene activation (upper left) and cell proliferation activity of KHYG-1 cells (upper right) to rhIL-15.

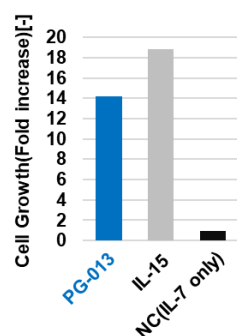
➤ Evaluation of NKT cell proliferation, maturation, and activation

As a further functional evaluation of PG-013, we compared it with IL-15 in a culture system for the maturation of immature NKT cells. According to the protocol shown below, immature NKT cells were thawed and rested, then cultured for 10 days in the presence of either IL-15 or PG-013. The resulting mature NKT cells were assessed for proliferation, surface marker expression, and functional activity.

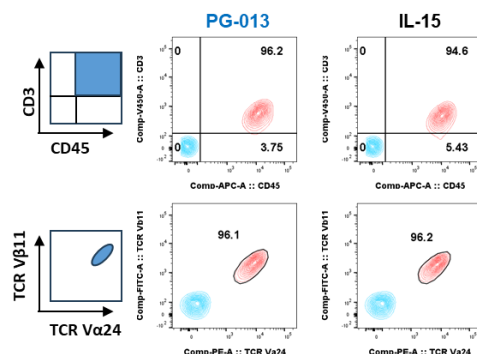


PG-013 induced robust cell proliferation (>12-fold increase), comparable to that observed with IL-15, and yielded NKT cells with similar surface marker expression profiles. Furthermore, PG-013-matured NKT cells exhibited cytotoxic activity equivalent to or even exceeding that of IL-15-matured NKT cells.

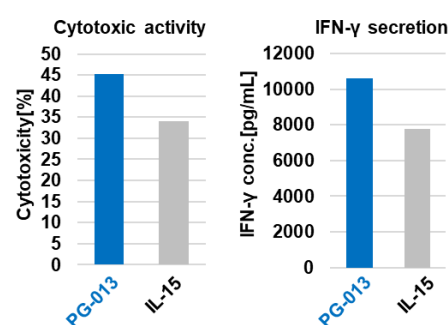
**NKT Cell Count Results**



**NKT Cell Surface Marker Analysis**



**NKT Cell Functional Activity Analysis**



The experiment was carried out at RIKEN Center for Integrative Medical Sciences Laboratory for Developmental Genetics.

➤ Product Overview

Product name:	IL-15 alternative peptide
Product code:	*PG-013
Product form:	Lyophilized
Storage conditions:	-20°C or less
Purity:	≥95% by HPLC
Molecular weight:	5855.61 (acetate)
Size:	10 µg, 100 µg, 1 mg (volume per vial)

\*This product can be provided with an Animal Component Free (ACF) certificate.

\*This product is for research use only (RUO).

\*The specifications are subjected to minor changes.

➤ Purchase Our Product

If you would like to purchase our products, please contact us using the information below.

For customers who would like to purchase GMP compliant products as well as the above PG product in bulk scale, please contact us using the information below.

**Development of other peptides from PeptiGrowth**

We have developed alternative peptides targeting numerous growth factors and cytokines. To date, we have launched 13 products and plan to launch additional growth factor substitute peptides, including those targeting PDGF-AA, IL-2, and IL-7. Details will be updated on our website. If you are interested in requesting a free sample, please contact us using the following contact information.

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