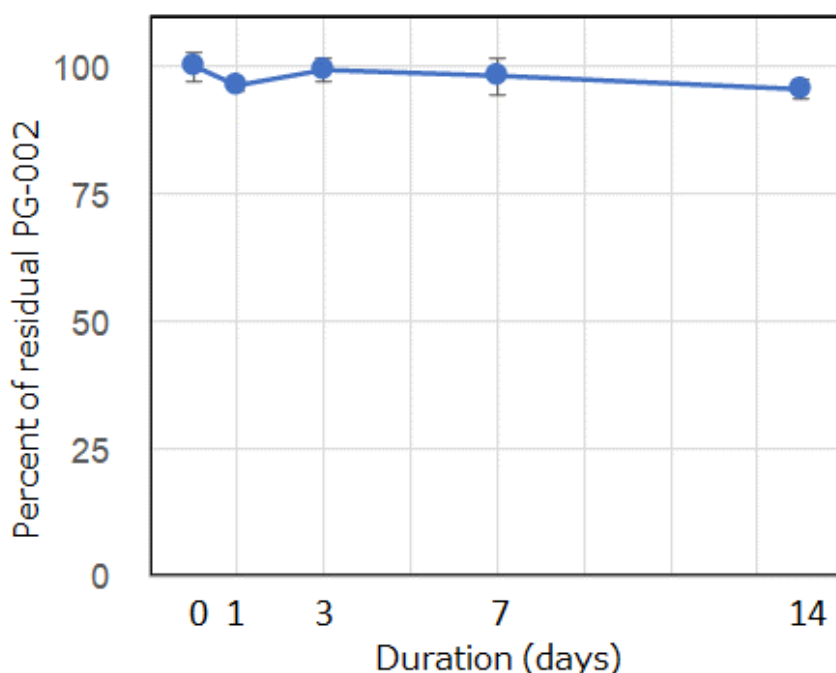


## TGF $\beta$ 1 Inhibitory Peptide [Product ID: PG-002] Stability in cell culture medium for a period of 14 days

Transforming growth factor  $\beta$  1 (TGF  $\beta$  1) inhibitor peptide, the investigational use peptide reagent of PeptiGrowth' product is designed to inhibit TGF  $\beta$  1 present in cell culture supernatant. It exhibits a cyclic monomer structure, structurally stable and expected to persist as undegraded in general liquid media [1]. In general, epithelial-mesenchymal transition (EMT) is known to be induced by TGF  $\beta$  -mediated inflammation [2]. Therefore, it has been reported that differentiation of several stem cells into mesenchymal cells may be suppressed by inhibiting TGF  $\beta$  [3].

At this experiment, time-dependent changes of TGF  $\beta$  1 inhibitor peptide "PG-002" concentrations **in a liquid medium under standard cell culture conditions (at 37°C) were determined, demonstrating the PG-002 concentration was apparently maintained as over 80% even after 2 weeks (see below).**

Changes in PG-002 concentration (initial value set as 100%)



- Method: PG-002 (final concentration: 100 nM) was added into the liquid medium (commercially available DMEM/F-12) and **maintained at 37° C for 14 days**. Relative concentrations of PG-002 were measured by LC/MS system at several points (at 0, 1, 3, 7, and 14 days).

# Application Note



- Result: Concentrations were shown as **maintained at 80% or higher even after 14 days under normal cell culture conditions** (N=3, mean  $\pm$  SD, in the upper graph).
  
- References:
  - 1) Nature Portfolio 2022.  
  
[A growing market for synthetically produced peptides \(nature.com\)](https://www.nature.com)
  - 2) Xu J, *et al.* Cell Res. 2009; 19: 156-172.
  - 3) Mizuno S, *et al.* Biol Pharm Bull. 2024; 47: 120-129.
  
- Precautions regarding the product:
  - Please read the Safety Data Sheet (SDS) carefully prior to use the product.
  - To use this product immediately after dissolving is recommended.
  - This product is a reagent for research use only. Not to use for any purpose other than research or investigational use.
  - Specifications, contents, appearances, etc. of this product may be changed without notice.
  - Contact us or our sales agents, if with any large amounts or other special specification.

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