

Human Like Collagen - Purified

Catalog No.: AR10401PU-N

Quantity: 0.5 g

Background: Collagen remained the initial functions of collagen and had some new characters because of its structure, such as reversible colloid with heat and easy processed without molecular reduction and so on. However, animal collagen extracted from animal tissues was insoluble except for the molecular weight reduction. The fetal shortcomings of animal collagen restricted the application is its harmful virus, but Human-like Collagen made up these drawbacks. Collagen (extracted from animal skin, tendons and hides) is potential risk in virus with the potential to cause side effect and the potential for the contamination of bovine collagen with the fatal mad cow disease. Collagen dissolves in water, which is another advantage to compete with animal collagen. It is different from hydrolyzed collagen produced by hydrolyzing animal collagen to short peptide linkage with a lower molecular weight. Human-like collagen was expressed by human collagen gene in host, so mmunogenicity could be lessened much by compared with animal collagen after it entered into human body.

Species: Human

Source: E. coli

Format: **State:** Sterile Filtered White lyophilized (freeze-dried) powder without additives
Purity: > 95.0% as determined by both RP-HPLC and SDS-PAGE analysis
Reconstitution: Restore in sterile 18MΩ·cm⁻¹ H₂O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.

Description: Recombinant Human Collagen produced in *E.coli* is a non-glycosylated polypeptide chain containing Human Collagen's cDNA transcribed reversely from mRNA. The Collagen is purified by proprietary chromatographic techniques.

AA Sequence:

The sequence of the first fifteen N-terminal amino acids was determined and was found to be *MDPVVLQRRDWENPG*.

Amino acid %: Asp 0.39; Thr 0.16; Ser 5.70; Pro 18.87; Gly 29.17; Ala 13.38; Val .71; Met .18; Ile 0.16; Leu 8.04; Tyr 0.90; Phe 0.15; Lys 0.27; His 0.15; Arg 0.03; Gln 17.40; Hydro Pro 4.34

Biological Activity: 1. Cultivation of BHK-21 and 2BS cell line BHK-21 or 2BS cells were plated onto the bottom of the 96-well cell culture plates at the density of 1*10³ cells/well, respectively, with 0.1ml RPMI1640 contained 10.0% fetal bovine serum in the well. BHK-21 or 2BS cells were incubated in standard conditions (at 37°C with 5.0% CO₂ in a humidified incubator) for 24 hours.

2. Biochemical activity analysis of Human-like Collagen Complete culture media was removed after 24 hours, Collagen was added at various concentrations 0.01%, 0.03%, 0.05%, 0.07%, 0.09%, 0.10%, 0.11%, 0.13% and a complete medium was used as blank

control. Cells were incubated in standard conditions (at 37°C with 5.0% CO₂ in a humidified incubator). The morphology of cell was observed by reverse microscope after 24hr, 48hr, 72hr, 96hr, and 120hr. Thereafter, the viable cell count was determined by a colorimetric method using MTT (3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyl tetrazolium bromide) after 24hr, 48hr, 72hr, 96hr and 120hr. A₄₉₀ was evaluated by ELISA reader.

3. The results demonstrate that Collagen has no significant effect on cell morphology. MTT analysis shows that Collagen has remarkable effect on cell proliferation when its Concentration: is higher than 0.03%. Cell proliferation was improved by 40.0% to 60.0% compared to control.

Molecular weight: 96 kDa

Add. Information: **Various uses of Activity:**

- A. Bio-Absorption.
- B. Cell-Adhesion.
- C. Mini-immunogenicity and neovascularization.
- D. Promoting the formation of epithelial cell.
- E. Biocompatibility.
- F. Absorption water.
- G. Against UV radiation.
- H. Repairing defected skin.
- I. Removing pock, acne, spot.
- J. Dispelling black eye sockets, eye dropping.

Storage:

Prior to reconstitution store at 2-8°C for one month or desiccated below -18°C..

Following reconstitution store undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer.

For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

Avoid repeated freezing and thawing.

Shelf life: one year from despatch.