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California Bioscience

Product Datasheet

Product Name Human Like Collagen Recombinant

Cata No CB500980

Source *Escherichia Coli.*

Synonyms

Description

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.

Collagen Human Recombinant produced in E.Coli is a non-glycosylated polypeptide chain a molecular mass of 96,000 Dalton containing human collagen's cDNA transcribed reversely from mRNA.

The Collagen is purified by proprietary chromatographic techniques.

Physical Appearance

Sterile Filtered White lyophilized (freeze-dried) powder.

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 $1*10^3$cells/well, respectively, with 0.1ml RPMI1640 contained 10% fetal bovine serum in the well. BHK-21 or 2BS cells were incubated in standard conditions (at 37℃ with 5% CO_2 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℃ with 5% CO_2 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 (3-4,5dimethylthiazol-2yl-2, 5 diphenyl tetrazolium bromide) after 24hr, 48hr, 72hr, 96hr and 120hr. A_{490} was evaluated by ELISA reader.

3. Results

The results demonstrate that Collagen has no significant effect on cell morphology. MTT analysis shows that Collagen has remarkable effect on cell

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proliferation when its concentration is higher than 0.03%. Cell proliferation was improved by 40% to 60% compared to control.

Purity

Greater than 95.0% as determined by:
(a) Analysis by RP-HPLC.
(b) Analysis by SDS-PAGE.

Formulation

The protein was lyophilized after from a sterile solution containing no additives.

Reconstitution

It is recommended to reconstitute the lyophilized Collagen in sterile 18MΩ-cm H2O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.

Stability

Lyophilized Collagen although stable at room temperature for 3 weeks, should be stored desiccated below -18℃. Upon reconstitution Collagen should be stored at 4℃ between 2-7 days and for future use below -18℃.
For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.