Product Information Sheet

Collagen from Chicken Sternal Cartilage

C9301

Product Description

This collagen has been tested in culture with mammalian cells to verify it is low in endotoxin content. This collagen is Miller type II, not to be confused with our catalog type which is an organizational placeholder.[1]

Collagen breaks down metabolically in the body to release N-telopeptide, which is the N-terminus of collagen. There is also C-telopeptide, which is presumably the C-terminus. N-telopeptide is released in urine, and its detection in diagnostic tests is used to screen for osteoporosis.

Although different types of collagens exist, they are all composed of molecules containing three polypeptide chains arranged in a triple helical conformation. Slight differences in the primary structure (amino acid sequence) establish differences between the types. The amino acid sequence of the primary structure is primarily a repeating motif with glycine in every third position and proline or 4-hydroxyproline frequently preceding the glycine residue.[2,3]

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

This product is an acid soluble collagen. It can be dissolved in water with acetic acid added to pH 3.0 (equivalent 5 mg/mL), yielding an opalescent, colorless solution.

Procedure

Optimal conditions for attachment must be determined for each cell line and application.

1. Collagen Types II and IV may be reconstituted to a concentration of 0.5-2.0 mg/mL in 0.25-0.5% acetic acid.
2. Coat dishes with 6-10 µg/cm^2. Allow the protein to bind for several hours at room temperature, 37 °C, or overnight at 2-8 °C.
3. Remove excess fluid from the coated surface and allow it to dry overnight. If the collagen solution is not sterile, the dried, coated surface can be sterilized easily by overnight exposure to UV light in a sterile tissue culture hood.
4. Rinse with sterile tissue culture grade water or a balanced salt solution before introducing cells and medium.

References

1. Miller, E., Biochemistry, 10, 1652 (1971).
2. Tanzer, M. L., Cross-linking of collagen. Science, 180(86), 561-566 (1973).
3. Bornstein, P. and Sage, H., Ann. Rev. Biochem., 49, 959 (1980).

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