

Directions for Use PureCol-S®

PURIFIED COLLAGEN STANDARD SOLUTION
Catalog Number 5015

Product Description

Advanced BioMatrix offers PureCol®-S collagen solution which is a highly purified bovine atelo-collagen standard for life scientists using collagen as an analytical standard. PureCol®-S is approximately 3 mg/mL, pH 2 and is sterile filtered. PureCol®-S is about 97% Type I collagen with the remainder being comprised of Type III collagen. The purity of PureCol®-S is ≥99.9%. SDS-PAGE electrophoresis shows the typical α , β and γ banding pattern for collagen. The actual collagen concentration is printed on the product label and certificate of analysis for each specific lot.

Selection of a proper standard is vitally important in the performance of an analytical assay. PureCol®-S works well for a standard due to its high purity and consistency.

Type I collagen is a major structural component of skin, bone, tendon, and other fibrous connective tissues, and differs from other collagens by its low lysine hydroxylation and low carbohydrate composition. Although a number of types of collagen have been identified, all are 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 mainly a repeating motif with glycine in every third position with proline or 4-hydroxyproline frequently preceding the glycine residue.^{1,2} Type I collagen is a heterotrimer composed of two α 1(I) chains and one α 2(I) chain, which spontaneously form a triple helix scaffold at neutral pH and 37°C.

This product is prepared from collagen extracted from bovine hide and contains a high monomer content. Starting material was isolated from a closed herd and purified using a manufacturing process following applicable aspects of cGMP. This process contains built-in, validated steps to insure inactivation of possible prion and/or viral contaminants.

Characterization and Testing

Parameter/Test/Method	Specification
Collagen Concentration (mg/ml) - Biuret	2.9 – 3.2
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Purity - SDS PAGE Electrophoresis – Silver staining	≥ 99.9%
Electrophoretic Pattern - SDS PAGE Electrophoresis - Coomassie	≥ 85% collagen contained with alpha, beta and gamma bands, < 15% collagen contained within bands traveling faster than alpha
pH	1.9 – 2.1
Osmolality (mOsmo H ₂ O/Kg)	≤ 35
Gel Formation Tube Test (minutes)	≤ 40
Kinetic Gel Test (minutes)	≤ 40
Fibrillogenesis (Absorbance Units)	> 0.5
Sterility (USP modified)	No Growth
Endotoxin LAL (EU/ml)	≤ 1.0
Gel Stiffness Plateau	Characteristic
Cell Attachment	Pass

Storage/Stability: The product is stored at 2–10 °C and ships on frozen gel packs. Do not freeze. The expiration date is listed on the product label and certificate of analysis for each specific lot. The expiration date is applicable when product is handled and stored as directed.

Precautions and Disclaimer

This product is for R&D use only and is not intended for human or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

