ALPHA DIAGNOSTIC INTERNATIONAL

Product Data Sheet

Cat# CLGN45-N-1 Human Collagen Type IV (Placenta, >purified, low endotoxin) cell culture **Size**:1mg

Collagen is the main structural protein of the various connective tissues in animals. As the main component of connective tissue, it is the most abundant protein in mammals making up from 25% to 35% of the whole-body protein content. It is a major component of the extracellular matrix, is a fibrous protein that provides tensile strength to tissues giving them structural integrity. Collagen, in the form of elongated fibrils, is mostly found in fibrous tissues such as tendons, ligaments and skin. It is also abundant in corneas, cartilage, bones, blood vessels, the gut, intervertebral discs and the dentin in teeth. In muscle tissue, it serves as a major component of the endomysium. Collagen constitutes one to two percent of muscle tissue, and accounts for 6% of the weight of strong, tendinous muscles. The fibroblast is the most common cell that creates collagen.

Collagen and its derivative, gelatin, have been widely used in medical, pharmaceutical and consumer products for more than 100 years. Collagen also has many medical uses in treating complications of the bones and skin. The supply of these materials, created from animal remains, is both abundant and inexpensive. However, most formulations are not highly purified and have the potential to cause an inflammatory reaction in some product users. Animal collagens are subject to extensive modifications that continue over the life of the molecule in the extracellular space. Products that contain animal-derived collagen can induce potentially harmful inflammatory or immune responses in humans and pose risk of contamination with viruses or prions, potentially life-threatening pathogens. Recombinant collagens are essentially identical to the native collagen protein thereby reducing the risk of inflammation, immune response, and disease as compared to animal-sourced collagen.

Type I Collagen is the most abundant type of collagen in the human body and is a major structural protein prevalent in skin, bone, tendon, and other fibrous connective tissues. All collagens are characterized by a secondary protein structure consisting of three polypeptide chains wrapped around one another in a triple helical arrangement. The different types of collagen vary in the primary amino acid sequence of their polypeptide chains, with type I collagen comprising two identical α1 chains and one α2 chain that spontaneously form the triple helix in solution.

Source:

Highly purified native, type IV collagen from human placenta. Aseptically filled. Highly purified preparation. Useful as a reference standard for collagen Type IV. Subunit composition: a mixture of α1(IV)2, α2(IV), α(IV)3, and α2(IV)3. Typically used as a thin coating on tissue culture surfaces. M.W. 450,000 (hetero trimer subunit).

Applications:

Type IV collagen may be used to culture epithelial, endothelial, muscle, nerve and many other cell types. Additionally, this product is suitable for use as a substrate for collagenase assays and positive controls.

Storage and Stability:

Human Collagen Type 4 should be stored at **4°C**.
Stable for 6 months from date of receipt.

* For research use only*

Reference: Heino J. (2007); Annu Rev Biochem 49: 957–1003.

Related items:

Catalog#	Prod Description
CLGN15-N-50	Human Collagen Type I (Fibroblast, >97%, low endotoxin) for cell culture
CLGN45-N-1	Human Collagen Type IV (Placenta, >purified, low endotoxin) cell culture
CLGNT1-A	Rabbit anti-Human Collagen Type I antibody
CLGNT3-A	Rabbit anti-Human Collagen Type III antibody
CLGNT4-A	Rabbit anti-Human Collagen Type IV antibody
RP-920	Recombinant (P. Pastoris) Human collagen Type III alpha-1
SP-55360-1	Collagen Binding Fragment [H-Cys-Gln-Asp-Ser-Glu-Thr-Arg-Thr-Phe-Tyr-OH; MW; 1248.32]

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