ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Plant Gelatin antibodies and proteins

Cat # GELM13-S	Rabbit Anti-Plant Gelatin antiserum	**SIZE**: 100 ul
Cat # GELM13-N-10	Plant Gelatin	**SIZE**: 10 g

Gelatin is a heterogeneous mixture of water-soluble proteins of high average molecular weights, present in collagen. The proteins are extracted by boiling skin, tendons, ligaments, bones, etc. in water. Type A gelatin is derived from acid-cured tissue and Type B gelatin is derived from lime-cured tissue. The charge on a gelatin molecule and its isoelectric point are primarily due to the carboxyl amino and guanidino groups on the side chains. Type A gelatin has 78-80 millimoles of free carboxyl groups per 100 g of protein and a pI of 7.0-9.0; type B has 100-115 millimoles of free carboxyl groups per 100 g of protein and a pI of 4.7-5.2. The pH of a 1.5% solution at 25 ℃ is 3.8-5.5 for Type A and 5.0-7.5 for Type B. soluble in glycerol and acetic acid, and more soluble in hot than in cold water. It is practically insoluble in most organic solvents such as alcohol, chloroform, carbon disulfide, carbon tetrachloride, ether, benzene, acetone, and oils.

Applications using gelatin include coating cell culture plates to improve cell attachment for a variety of cell types, addition to PCR to help stabilize Taq DNA polymerase, and use as a blocking reagent in Western blotting, ELISA, and immunohistochemistry. In bacteriology, gelatin can be used as a component of culture media for species differentiation. Additionally, as a biocompatible polymer, gelatin has been used as a delivery vehicle for the release of bioactive molecules and in the generation of scaffolds for tissue engineering applications. Industrial applications include the use of gelatin as a stabilizer, thickener, and texturizer in foods and in the manufacture of rubber substitutes, adhesives, cements, lithographic and printing inks, plastic compounds, artificial silk, photographic plates and films, matches, and light filters for mercury lamps. In the pharmaceutical industry, gelatin is used as a suspending agent, encapsulating agent, and tablet binder; and in veterinary applications it is used as a plasma expander and hemostatic sponge.

Gelatin proteins are also used as additives in purified, recombinant proteins and antibodies. Animals or humans exposed to gelatins may invoke antibody response. Often the gelatin must be removed prior to such applications. Antibodies to gelatins were produced to detect the presence of gelatins in biolgocial samples and or to verify their removal during bioprocess development.

Many people wish to avoid taking animal derived gelatin due to alltergy and for religious or ethical reasons. The antibodies to gelatins can be used to detec the presence of gelatin.

Source of Antigen and Antibodies

Antigen	Gelatin, Plant Type A cat# (Cat# GELM13-N-10)
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (#**GELM13**-S)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)

100ul solution lyophilized powder

Supplied in Buffer: 0.05% azide

Reconstitute powder in 100 ul PBS

Cat # GELM13-N-10

Gelatin, vegetable, Irish moss, Blended from various seaweeds to produce rigid gels, Predominantly κ and lesser amounts of λ carrageenan.

Dry gelatin stored in airtight containers at room temperature remains unchanged for many years. When heated at 100 ℃ in the presence of air it swells, becomes soft, and disintegrates to a carbonaceous mass with evolution of pyridine bases and ammonia. Physical Properties: Below 35-40 ℃ gelatin swells in and absorbs 5-10 times its weight of water to form a gel. Gelatin is soluble in glycerol and acetic acid, and more soluble in hot than in cold water. It is practically insoluble in most organic solvents such as alcohol, chloroform, carbon disulfide, carbon tetrachloride, ether, benzene, acetone, and oils.

Sterile solutions of gelatin stored cold are stable indefinitely, but at elevated temperatures hydrolysis or rupture of peptide bonds occurs, increasing the number of free amino groups. Gel strength and viscosity gradually weaken upon prolonged heating in solution above 40 ℃; this degradation is accelerated by extremes in pH, proteolytic enzymes, and bacterial action.2 Gelatin has been autoclaved at 121 ℃ for 15-20 minutes with appreciable hydrolysis.

Storage

Short-term: unopened liquid or powder antiserum vials at -4oC for 1-4 weeks.

Long-term: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20oC or below.

Recommended Usage

ELISA (coa gelatin antigen at 5-10 ug/ml and antiserum 1:1K to 1:10K).

Other applicatiosn not tested.

General References: Merck Index, 12th Ed., S. Budavari, Ed., p. 742, # 4388 (1996); Standard Methods for the Sampling and Testing of Gelatins, Gelatin Manufacturers Institute of America, Inc., 501 fifth Ave., Room 1015, New York, NY; Vogt, R. F. (1987) J. Immunol. Methods 101, 43; Levine, M. (1923) J. Bacteriol. 8, 297; Sakai, Y (1998) Biol. Pharm. Bull. 21, 330; Young, S. (2005) Control Release 109, 256-274 (2005); Huang Y (2005) Biomaterials 26, 7616-7627 (2005)

*This product is for In vitro research use only.

India Contact:
Life Technologies (India) Pvt. Ltd.
306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444
Email: customerservice@lifetechindia.com Website: www.lifetechindia.com