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ProductInformation

MONOCLONAL ANTI-COLLAGEN TYPE VII
Clone LH7.2
Mouse Ascites Fluid

Product Number **C 6805**

Product Description

Monoclonal Anti-Collagen Type VII (mouse IgG1 isotype) is derived from the LH7.2 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with insoluble fractions prepared from neonatal foreskin epidermal cells.[1] The isotype is determined using Sigma ImmunoType™ Kit (Product Code ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Product Code ISO-2).

Monoclonal Anti-Collagen Type VII recognizes an epitope located on collagenase digested Type VII collagen (150 kDa), i.e., the non-helical carboxy terminal region of the Type VII collagen dimer.[1] It is also reactive in immunoblotting against intact tissue Type VII collagen (250 kDa), but once the terminal regions are completely digested by pepsin, this reactivity is completely lost. When tissue-derived Type VII collagen is treated with collagenase, the antibody reactivity is conserved. Immunoelectron microscopy shows that all of the LH7.2 binding sites are localized at the inferior border of the lamina densa. No binding could be detected within the dermis underneath the basement membrane at the putative sites of anchoring plaques. ELISA assays showed no reaction of LH7.2 against Types I, II, III, IV, V collagens, pepsin-digested Type VII collagen, or against laminin and fibronectin.[1] The antibody reacts predominantly with the basement membrane zone of stratified squamous epithelia and ectodermally derived glands. No staining is present around "simple" glandular epithelia or around blood vessels, muscle and nerve fibers. Detailed staining patterns of antibody LH7.2 with Type VII collagen in various normal and malignant tissues have been described.[2] There is no loss of staining by treatment of frozen tissue sections with enzymes such as bacterial collagenase, trypsin, pronase, neuraminidase, chondroitinase or hyaluronidase. Staining is lost by pepsin digestion and by fixation with methanol, and is reduced by formaldehyde and glutaraldehyde fixation. Antigenicity is fairly retained in methacarn-fixed, paraffin-embedded and briefly enzyme-digested sections. The antibody is useful for differentiating invasive melanoma from non-invasive melanoma through clear visualization of appearance and integrity of epidermal basement membrane.[3,4] It is also useful for identification of Recessive Dystrophic Epidermolysis Bullosa (RDEB).[5-7] The antibody reacts with the basement membrane zone of stratified squamous epithelia of human, pig, guinea pig, bovine, sheep and goat.

Monoclonal anti-Collagen Type VII may be used for the localization of Type VII collagen using various immunochemical assays such as ELISA, dot blot, immuno-blotting and immunocytochemistry.

The extracellular matrix consists of basement membranes and interstitial stroma. Basement membranes are amorphous laminar structures in intimate contact with various cell types (epithelial, endothelial, smooth muscle, neural and fat cells). The composition of the extracellular framework of all ertebrates is dominated by a class of molecules known as collagens,[8] each with unique feature suited to its function and location. Type VII collagen is the major constituent of the anchoring fibril in the sublamina densa zone. The development of antibodies against collagens has provided a powerful method for examining the distribution of these connective tissue proteins and investigation of epithelial-mesenchymal interactions, tumorigenesis, and basement membrane biology in ontogeny and epithelial differentiation

Reagents

The product is provided as ascites fluid with 0.1% sodium azide as a preservative.

Precautions and Disclaimer
Due to the sodium azide content a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous and safe handling practices.

Storage/Stability
For continuous use, store at 2-8 °C for up to one month. For extended storage, the solution may be frozen in working aliquots. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

Product Profile
The minimum antibody titer of 1:1,000 was determined by immunofluorescence staining of human or other mammalian frozen sections.

In order to obtain best results in different techniques and preparations, it is recommended that each individual user determine their optimal working dilutions by titration assay.

References

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