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Product Information

Anti-Elastin antibody, Mouse monoclonal
clone BA-4, purified from hybridoma cell culture

Product Number **SAB4200718**

Product Description

Anti-Elastin antibody, Mouse monoclonal (mouse IgG1 isotype) is derived from the BA-4 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from a BALB/c mouse immunized with bovine alpha-Elastin.[1] The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents, Product number ISO2. The antibody is purified from culture supernatant of hybridoma cells.

Monoclonal Anti-Elastin antibody specifically recognizes human,[2,5] bovine, sheep, canine,[3] porcine,[1] goat, feline and guinea pig[4] Elastin, and to a lesser extent, hamster[1], rabbit and frog Elastin. The antibody binds to insoluble Elastin, alpha-Elastin, Tropoelastin and peptide fragments generated by proteolytic digestion of insoluble Elastin.[1] The antibody is specific for an epitope composed of the hexamer Val-Gly-Val-Ala-Pro-Gly, a chemoattractant for fibroblasts and monocytes.[1] No cross-reactivity was found with mouse, fish, chicken, lizard or rat Elastins. Monoclonal Anti-Elastin is recommended to use in various immunochemical assays, including Immunohistochemistry[1-9], Immunoblot,[1,5] and Immunoprecipitation[6].

Elastin, also known as Tropoelastin or ELN, is the most abundant member of the elastic fiber proteins. Elastic fibers are insoluble components of the extracellular matrix (ECM) of extensible connective tissues such as large arteries, skin, lungs, ligaments and auricular cartilage,[10-11] Elastin provides elasticity and is integrated with other proteins from the ECM in elastic fibrils.[12] This protein is synthesized by elastogenic cells such as fibroblasts, smooth muscle cells and auricular chondrocytes. It is secreted as a soluble, non-glycosylated and highly hydrophobic Tropoelastin monomer. Upon post-translational modifications Tropoelastin is covalently crosslinked and classified into insoluble Elastin polymers which create concentric rings of elastic sheet around the medial layer of arteries.[13]

Elastin undergoes changes of morphology with aging and at many disease states. For example, it was shown that abnormal accumulation of connective tissue in blood vessels contributes to alterations in vascular physiology associated with diseases, such as hypertension and atherosclerosis.[14] In addition, several heritable diseases, such as supravalvular aortic stenosis, cutis laxa, Marfan syndrome, pseudoxanthoma elasticum and Buschke-Ollendorf syndrome, may result from molecular defects of Elastin.[13]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody Concentration: ~ 1.0 mg/mL

Precautions and Disclaimer

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

Storage/Stability

Store at –20 °C. For continuous use, store at 2–8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunohistochemistry: a working concentration of 10–20 μg/ml is recommended using enzyme-retrieved formalin-fixed, paraffin-embedded sheep arterial tissue sections.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working concentration by titration test.

References

1. Wrenn DS., et al., *Biochemistry*, **25**, 5172-6 (1986).
2. El-Domyati M., et al., *J Clin Aesthet Dermatol*., **8**, 36-42 (2015).

3. Smith KD., et al., *J Anat*., **218**, 600-7 (2011).
4. Katori Y., et al., *Cell Tissue Res*., **284**, 473-9 (1996).
5. Krettek A., et al., *Arterioscler Thromb Vasc Biol*., **23**, 582-7 (2003).
6. Wrenn DS., et al., *J Biol Chem*., **262**, 2244-9 (1987).
7. Dai X., et al., *BMC Biology*, **11**, 107 (2013).
8. El-Domyati M., et al., *Int J Dermatol*., **51**, 913-19 (2012).
9. Smith KD., et al., *J Anat*., **218**, 600-7 (2011).
10. Baldwin AK., et al., *Expert Rev Mol Med*., **15**:e8 (2013).
11. Wang Y., et al., *J Mech Behav Biomed Mater*., **49**, 244-54 (2015).
12. Van Doren Sr., *Matrix Biol*., **44-46**, 224-31 (2015).
13. Eslami M., et al., *Cell J*., **17**, 478-488 (2015).
14. Wagenseil J. and Mecham RP., *J Cardiovasc Transl Res*., **5**, 264-73 (2012).

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