

Product Information

Monoclonal Anti-Angiogenin, clone 14017

produced in mouse, purified immunoglobulin

Catalog Number **A9850**

Product Description

Monoclonal Anti-Angiogenin (mouse IgG1 isotype) is produced from a mouse hybridoma elicited from a mouse immunized with purified recombinant human angiogenin expressed in *Escherichia coli*. The antibody is purified from the IgG fraction of ascites fluid using protein A.

Monoclonal Anti-Angiogenin recognizes recombinant human angiogenin by immunoblotting and ELISA capture. The antibody can be used as the capture antibody in sandwich ELISAs.

Angiogenin was initially identified from the serum-free supernatants of the established HT-29 human adenocarcinoma cell line based on its ability to initiate vascularization in the chicken embryo chorioallantoic membrane.^{1,2} Angiogenin is a single chain ~14.4 kDa polypeptide containing one tryptophan, one methionine, six cysteines, and basic amino acids.

Angiogenin is a member of the ribonuclease superfamily with ~35% amino acid sequence identity with pancreatic RNase. Like other members of the ribonuclease superfamily, angiogenin is a cytotoxic agent that can eliminate cellular protein synthesis. Angiogenin causes protein synthesis inhibition by functioning as a cytotoxic tRNA-specific RNase.²

Angiogenesis is the formation of blood vessels or capillaries from existing blood vessels due to specific signals. Angiogenin induces the growth of new blood vessels. It stimulates capillary and umbilical vein endothelial cells to produce diacylglycerol and secrete prostacyclin by phospholipase activation.

Angiogenin exhibits both angiogenic and non-angiogenic activities^{1,3} and is involved in endothelial cell migration, proliferation, and differentiation. It is produced by a variety of tumor and normal cell types.⁴ Cells that express angiogenin include vascular endothelial and smooth muscle cells,⁴ fibroblasts,^{4,5} normal colonic epithelium,⁵ normal peripheral blood lymphocytes,⁵ lung and colonic epithelial tumor cell lines,^{1,5} and primary gastrointestinal adenocarcinomas.⁶ Angiogenin is also present in normal human plasma.

Reagent

Lyophilized from 0.2 µm-filtered solution in phosphate buffered saline containing carbohydrates.

Precautions and Disclaimer

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

Preparation Instructions

To one vial of lyophilized powder, add 1 ml of sterile phosphate buffered saline (PBS) to produce a 0.5 mg/ml stock solution of antibody.

Storage/Stability

Prior to reconstitution, store at -20 °C. Reconstituted product may be stored at 2-8 °C for at least one month. For prolonged storage, freeze in working aliquots at -20 °C. Avoid repeated freezing and thawing. Do not store in frost-free freezer.

Product Profile

Immunoblotting: a working antibody concentration of 1-2 µg/ml is recommended. The detection limit for recombinant human angiogenin is ~20 ng/lane and ~200 ng/lane under non-reducing and reducing conditions, respectively.

Capture ELISA: Monoclonal Anti-Angiogenin can be used as the capture antibody. A working capture antibody concentration of 2-8 µg/ml in combination with a biotinylated human angiogenin detection antibody at 0.1-0.4 µg/ml is recommended.

Note: In order to obtain the best results in various techniques and preparations we recommend determining the optimal working dilutions by titration.

References

1. Fett, J. W., et al., *Biochemistry*, **24**, 5480 (1985).
2. Kurachi, I., et al., *Biochemistry*, **24**, 5494 (1985).
3. Bicknell, R., and Vallee, B. L., *Proc. Natl. Acad. Sci. USA*, **86**, 1573 (1989).
4. Moenner, M., et al., *Eur. J. Biochem.*, **226**, 483 (1994).
5. Rybak, S.M., et al., *Biochem. Biophys. Res. Commun.*, **146**, 1240 (1987).
6. Li, D., et al., *J. Pathol.*, **172**, 171 (1994).

ADM ,PHC,TMS,MAM 06/16-1