3050 Spruce Street, St. Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

Product Information

Monoclonal Anti-AP2
Clone A6/2/2
produced in mouse, purified immunoglobulin

Catalog Number **A7107**

Product Description

Monoclonal Anti-AP2 (mouse IgG1 isotype) is derived from the hybridoma A6/2/2 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with a peptide corresponding to amino acids 415-433 of human AP2α (GeneID 7020). The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2.

Monoclonal Anti-AP2 recognizes human AP2α and AP2β.The antibody may be used in various immunochemical techniques including immunoblotting (~ 50 kDa) and immunohistochemistry.[1]

The AP2 family of transcription factors consists in human and mice of AP2α, AP2β, AP2γ, AP2δ, and AP2ε. The proteins have a characteristic helix-span-helix motif at the carboxyl terminus, which together with a central basic region mediates dimerization and DNA binding. The amino terminus contains the transactivation domain.[2] Two members of this family, AP2α and AP2β, bind to a consensus palindromic core recognition element via a DNA-binding domain located at the C-terminus of the protein. The expression of both AP2 members is associated with embryonal development. Mice deficient for AP2α gene are not viable and show severe defects of carniofacial development. Furthermore, AP2α knockout mice revealed significantly enhanced apoptotic cell death overlapping the activation of enhanced c-myc expression under conditions of growth. Similarly, AP2β deficient mice die within 1 or 2 days after birth, from renal failure due to polycystic kidney disease through enhanced apoptotic renal epithelial cell death.[3] In humans, mutations or loss of these genes result in increased tumor growth and metastasis. Specifically, AP2α loss results in down regulation of E-cadherin and MMP-9, leading to increase in tumorigenicity of colon cancer cells.[4] This effect may also be the result of AP2α regulation by p53.[5] AP2β was found to be a tumor-specific human telomerase reverse transcriptase (hTERT) promoter activator, suggesting it may be a biomarker for cancer diagnosis or as a cancer therapeutic target for inhibiting hTERT activity and tumor cell growth.[6]

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

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze at –20 °C in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, 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

Immunoblotting: a working concentration of 2-4 μg/mL is recommended using G361 total cell extract.

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

Sensitive film is recommended.

References

1. Gee, J.M.W., et al., *J. Pathol.*, **189**, 514-420 (1999).
2. Eckert, D., et al., *Genome Biol.*, **6**, 246.1-246.8 (2005).

3. Hilger-Eversheim, K et al., *Gene*, **260,** 1-12 (2000).
4. Schwartz, B., et al., *Oncogene,* **26**, 4049-4058 (2007)
5. Li, H., et al., *Oncogene,* **25**, 5405-5415 (2006)
6. Deng, W.G., et al., *J. Biol. Chem.,* **282**, 26460-26470 (2007).

GG,KAA,PHC 08/08-1

Sigma brand products are sold through Sigma-Aldrich, Inc.
Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see reverse side of the invoice or packing slip.