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Product Information

Anti-AP Endonuclease antibody, Mouse monoclonal
clone APEREF, **p**urified from hybridoma cell culture

Product Number **A2105**

Product Description

Anti-AP Endonuclease antibody, Mouse monoclonal (mouse IgG1 isotype) is derived from the hybridoma APEREF produced by the fusion of mouse myeloma cells (NS1 cells) and splenocytes from BALB/c mice immunized with recombinant human AP Endonuclease. The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Product Number ISO2.

Monoclonal Anti-AP Endonuclease recognizes human, canine, rat, and mouse AP endonuclease (~37 kDa). The antibody may be used in ELISA, immunoblotting, and immunocytochemistry.

AP endonuclease (APE/Ref1 or Apurinic/apyrimidinic endonuclease) is a crucial enzyme in the DNA base excision repair (BER) pathway. It recognizes baseless sites in the DNA following spontaneous base loss or removal of a damaged base by different DNA glycosylases. The major DNA repair activity of the enzyme is nicking the DNA phosphodiester backbone 5' to the AP site leaving a 3'-hydroxyl group and a 5'-deoxyribose phosphate.[1-5] In addition, it has a 3'-repair diesterase or phosphatase activity. This enzyme is the major AP endonuclease in mammalian cells. The human enzyme shows a high degree of homology with other mammalian AP endonucleases (bovine, mouse, rat, and hamster).

APE/Ref1 is a multifunctional enzyme. Its N-terminal region includes a nuclear localization sequence and a redox activity zone, while its AP endonuclease activity resides in the C-terminal region. Ref1, which stands for redox-factor 1, refers to the reduction/oxidation function of the enzyme, which maintains transcription factors in their active reduced states. APE/Ref1 has been shown to stimulate the DNA binding activity of many transcription factors (Fos, Jun, NFκB, PAX, HIF-1, p53, and CREB), which are involved in cancer promotion and progression. The protein was found at elevated levels in several tumors (ovarian, prostate, cervical and germ cells).[1-5]

Reagent

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

Antibody Concentration: ~2 mg/mL

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.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze 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

Iimmunoblotting: a working antibody concentration of 0.5-1 μg/mL is recommended using total cell extract of Raji cells.

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

References

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4. Xanthoudakis, S., et al., Proc. Natl. Acad. Sci. USA, **91**, 23-27 (1994).
5. Robertson, K.A., et al., Cancer Res., **61**, 2220-2225 (2001).

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