PRODUCT DATA SHEET

Product: **Anti-APE/ref-1 mAb, clone 13B 8E5C2**

Cat. No.: **MC-347 (100 µg)**

Background:

Mammalian apurinic/apyrimidinic endonuclease (APE/ref-1) is a multifunctional, bipartite enzyme that plays an important role in numerous cellular functions. APE/ref-1 is responsible for repairing abasic sites in DNA and for regulating the redox state of other proteins that play roles in oxidative signaling, transcription factor regulation (Fos, Jun, NF-kB, Myb, HIF-1 alpha, CREB, Pax), cell cycle control (p53) and apoptosis.

The most common form of DNA damage is the creation of abasic sites which are brought about through spontaneous loss or oxidative DNA damage through chemically initiated hydrolysis (chemotherapy), ionizing radiation, UV irradiation, oxidizing agents and removal of modified bases by DNA glycosylases.

APE/ref-1 is differentially expressed during development and in different tissues. This protein has diverse subcellular localization patterns which support the possibility of its interaction with numerous cellular proteins in addition to DNA repair within the nucleus. Regulation of APE/ref-1 by phosphorylation is mediated, at least in part, by casein kinase II. Increases in APE/ref-1 message and protein levels are observed upon the reintroduction of oxygen to hypoxic cells, and in some malignant tissue relative to normal tissue. Decreases in APE/ref-1 expression have been associated with the induction of cellular apoptosis.

Specificity:

Clone 13B 8E5C2 recognizes a 37 kDa protein identified as APE/ref-1 on Western blots of HeLa cell lysate. Immunohistochemical staining of APE/ref-1 in a variety of normal and cancerous human tissues, including ovaries, cervix, prostate, germ cell tumors, osteosarcomas, and rhabdosarcomas, with clone 13B 8E5C2 yields a staining pattern consistent with nuclear staining.

Species Reactivity:

Human. Other species not tested.

Ig Isotype:

Mouse IgG_{2a}

Immunogen:

Full length recombinant human apurinic/apyrimidinic endonuclease (APE/ref-1) protein.

Format:

100 µL of 1 mg/mL purified monoclonal antibody prepared in PBS containing 0.05% sodium azide.

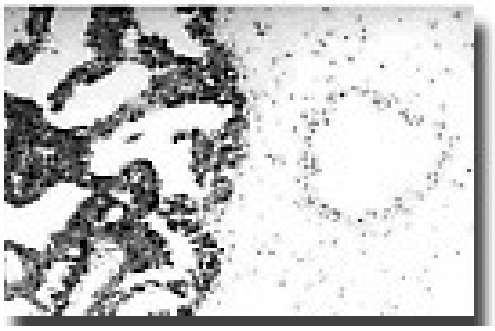
Storage and Stability:

Store at -20°C, aliquot to avoid freeze/thaw cycles. Do not store in frost-free freezers. In aliquots less than 20 µL, antibodies may have an affinity to the plastic tube and bind to the sides. It is recommended for aliquoting into small volumes that the antibody be diluted (1:20) with a solution containing carrier protein, such as 5% BSA, before aliquoting.

Applications and Suggested Dilutions:

- Western blot: Use at a 1:1,000 dilution.
- Immunohistochemistry: (Paraffin) Use at a 1:100 dilution.
- Immunoprecipitation: Assay dependent

The optimal dilution for a specific application should be determined by the researcher.



Immunolocalization of APE/ref-1 in prostatic carcinoma using MC-347.

Limitations:

For *in vitro* research use only. Not for use in diagnostics or in humans.

Warranty:

No warranties, expressed or implied, are made regarding the use of this product. KAMIYA BIOMEDICAL COMPANY is not liable for any damage, personal injury, or economic loss caused by this product.