BPDE-DNA (5D11): sc-52625

BACKGROUND
Benzopyrene-7,8-diol-9,10-epoxide (BPDE) is a five-ring polycyclic aromatic hydrocarbon that is mutagenic and highly carcinogenic. BPDE is a product of incomplete combustion found in coal tar, automobile exhaust fumes, tobacco smoke, and in charbroiled food. BPDE is first activated by cytochrome P4501A1 to form -benzo[α]pyrene 7,8-oxide which is then metabolized by epoxide hydrolase to yield (-)-benzo[α]pyrene-7,8-dihydrodiol. This product forms the ultimate carcinogen after reacting with cytochrome P4501A1 to yield benzopyrene diol epoxide. The two carbons of the epoxide are electrophilic, and this molecule intercalates and distorts DNA, covalently bonding to the nucleophilic guanine nucleobases at the N2 position. BPDE causes an increased number of micronuclei and apoptosis in cells and eventually causes many types of cancer, especially lung.

REFERENCES

SOURCE
BPDE-DNA (5D11) is a mouse monoclonal antibody raised against BPDE-I-G.

PRODUCT
Each vial contains 200 μg IgGκ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

BPDE-DNA (5D11) is available conjugated to agarose (sc-52625 AC), 500 μg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-52625 HRP), 200 μg/ml, for WB, (HC)P and ELISA; to either phycocerythrin (sc-52625 PE), fluorescein (sc-52625 FITC), Alexa Fluor® 488 (sc-52625 AF488), Alexa Fluor® 546 (sc-52625 AF546), Alexa Fluor® 594 (sc-52625 AF594) or Alexa Fluor® 647 (sc-52625 AF647), 200 μg/ml, for WB (RGB), IF, (HC)P and FCM; and to either Alexa Fluor® 680 (sc-52625 AF680) or Alexa Fluor® 790 (sc-52625 AF790), 200 μg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE
Store at 4°C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS
BPDE-DNA (5D11) is recommended for detection of BPDE-DNA by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

RECOMMENDED SUPPORT REAGENTS
To ensure optimal results, the following support reagents are recommended: 1) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 2) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistochemistry: sc-45086, or Organo/Limonene Mount: sc-45087.

SELECT PRODUCT CITATIONS

RESEARCH USE
For research use only, not for use in diagnostic procedures.