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[a]pyrene 7,8-oxide which is then metabolized by epoxide hydrolase to yield (-)-benzo[a]pyrene-7,8-dihydrodiol. This product forms the ultimate carcinogen after reacting with cytochrome P4501A1 to yield benzo[a]pyrene 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, IHCP and ELISA; and to either phycoerythrin (sc-52625 PE), fluorescein (sc-52625 FITC), Alexa Fluor® 488 (sc-52625 AF488) or Alexa Fluor® 647 (sc-52625 AF647), 200 µg/ml, for IF, IHCP and FCM. Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA.

**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. BPDE-DNA (5D11) is recommended for detection of BPDE-DNA by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500). To achieve optimal results, the following support reagents are recommended:

2. Alexa Fluor® (sc-52625 FITC), Alexa Fluor® 488 (sc-52625 AF488) or Alexa Fluor® 647 (sc-52625 AF647), 200 µg/ml, for IF, IHCP and FCM.

**STORAGE**

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

**RESEARCH USE**

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