

CERTIFICATE OF ANALYSIS – TECHNICAL DATA SHEET

Product name	BPDE-DNA, clone 5D11		
Catalog number	HM5007-20UG		
Lot number	-	Expiry date	-
Volume	200 µl	Amount	20 µg
Formulation	0.2 µm filtered in PBS+0.1%BSA+0.02%NaN3	Concentration	100 µg/ml
Host Species	Mouse IgG2a	Conjugate	None
Endotoxin	N.A.	Purification	Protein G
Storage	4°C		

Application notes

	IHC-F	IHC-P	IF	FC	FS	IA	IP	W
Reference #		2,3,5,6,9	8	8		4,7	10	
Yes		•	•	•		•	•	
No								
N.D.	•				•			•

N.D.= Not Determined; IHC = Immuno histochemistry; F = Frozen sections; P = Paraffin sections; IF = Immuno Fluorescence; FC = Flow Cytometry; FS = Functional Studies; IA = Immuno Assays; IP = Immuno Precipitation; W = Western blot

Dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine their own optimal dilutions. The typical starting working dilution is 1:50.

- FC: Washed sperm was fixed in 2% paraformaldehyde and permeabilized with 0.2% triton x-100/0.1% sodium citrate. Samples were treated with protK and RNase. To denature DNA samples were incubated with 4n HCl. After blocking with 5% normal serum samples were incubated with mAb.
- IA: plates were coated with 50 ng/well BPDE-DNA in 50mM Tris-buffer pH7.5 o/n at 4°C. Plates were blocked 1% FCS. DNA samples, 4µg, were mixed with 5D11 and added to the well. Detection with GtoMs-IgG-AP for 90' at 37°C.
- IHC-P: 5 µm sections were RNase and prot-K treated. DNA was denatured with 4N HCl and neutralized with 50mM Tris base. Section was blocked with 1.5% normal horse serum.

General Information

Description	A number of chemicals, including polycyclic aromatic hydrocarbons (PAHs), have been shown to bind to DNA. This DNA damage can occur both early and late in the malignant process, thereby acting as an initiator and assisting in the progression of tumors. PAHs are released into the environment following incomplete combustion of organic materials. The most common sources of PAHs are from smoking and from consuming broiled or grilled foods. Human exposure to PAHs comes from various occupational, environmental, dietary and medicinal sources. Benzo[a]pyrene is a representative PAH. Antibodies to benzo[a]pyrenediol-epoxide modified DNA (BPDE-DNA) can be used to identify polycyclic aromatic hydrocarbon (PAH)-DNA adducts. Exposure to this group of compounds is believed to be carcinogenic. The monoclonal antibody 5D11 recognizes BPDE-I-DNA (PAH-DNA).
Immunogen	BPDE-I-DNA complexed with methylated BSA
Aliases	Bezo[A]pyrenediol-epoxide modified DNA
References	<ol style="list-style-type: none"> Santella, R et al; Monoclonal antibodies to DNA modified by benzo[a]pyrene diol epoxide. Carcinogenesis 1984, 5: 373 Zhang, YJ et al; Immunohistochemical detection of polycyclic aromatic hydrocarbon-DAN damage in human blood vessels of smokers and non-smokers. Atherosclerosis 1998, 140:325 Rybicki, BA et al. Polycyclic aromatic hydrocarbon-DNA adducts in prostate cancer. Cencer Res 2004, 64: 8854 Maisonnette, C et al; Selective immunoclean-up followed by liquid chromatography for the monitoring of a biomarker of exposure to polycyclic aromatic hydrocarbons in urine at the ng l⁻¹ level. J. Chromatogr A 2006, 1120:185 Juriscova, A et al; Maternal exposure to polycyclic aromatic hydrocarbons diminishes murine ovarian reserve via induction of <i>Harakiri</i>. J Clin Invest 2007, 117: 3971 Shinmura, K et al. Induction of centrosome amplification and chromosome instability in p53-deficient lung cancer cells exposed to benzo[a]pyrene diol epoxide (B[a]PDE). J Pathol 2008, 216:365 Chen, K et al; Modulation of benzo[a]pyrene-induced DNA adduct, cyclin D1 and PCNA in oral tissue by 1,4-phenylenebis(methylene)selenocyanate. BBRC 2009, 383:151 Ji, G et al; Interactions between exposure to environmental polycyclic aromatic hydrocarbons and DNA repair gene polymorphisms on bulky DNA adducts in human sperm. PLOS one 2010, 5:e13145

9. Abedi-ardekani, B et al; Polycyclic aromatic hydrocarbon exposure in oesophageal tissue and risk of oesophageal squamous cell carcinoma in north-eastern Iran. Gut 2010, 59:1178
10. Ye, F et al; Benzo[a]pyrene diol epoxide suppresses retinoic acid receptor-β2 expression by recruiting DNA (cytosine-5-)-methyltransferase 3A. Molecular cancer 2010, 9:93

Storage&stability Product should be stored at 4°C. Under recommended storage conditions, product is stable for at least one year.

Precautions For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and federal rules in the use of this product. Hycult Biotech is not responsible for any patent infringements that might result from the use or derivation of this product.

We hereby certify that the above-stated information is correct and that this product has been successfully tested by the Quality Control Department. This product was released for sale according to the existing specifications. This document has been produced electronically and is valid without a signature.

Approved by Manager of QC
Brenda Teunissen

Date
13/01/2021

Do you have any questions or comments regarding this product? Please contact us via support@hycultbiotech.com.