abcam

Product datasheet

Anti-Thymine Dimer antibody [H3] ab10347

7 Abreviews 12 References 1 Image

Overview

Product name	Anti-Thymine Dimer antibody [H3]
Description	Mouse monoclonal [H3] to Thymine Dimer
Host species	Mouse
Tested applications	**Suitable for:** Southern Blot, ICC, Competitive ELISA, ELISA, ICC/IF
Species reactivity	**Reacts with:** Species independent
Immunogen	Chemical/ Small Molecule corresponding to Thymine Dimer.
Positive control	ICC/IF: HeLa cells.

General notes

Non-radioactive labeling of DNA is typically based on the enzymatic incorporation of modified nucleotides, carrying a small chemical moiety such as biotin, digoxigenin or fluorescein. These tags are subsequently detected by specific reagents such as streptavidin or a specific antibody coupled to a signal-producing enzyme. Although very efficient and reliable, labeling by in vitro polymerization is time-consuming, expensive, and may require various post-label purification steps to remove an excess of unincorporated precursors. An alternative strategy for DNA labeling, is based on the UV-induced formation of cyclobutane thymine dimers. Several methods have been described for the detection of thymine dimers, which are based on chromato-graphic analysis, and on biochemical analysis with endonucleases specific for UV-irradiated DNA. In addition, methods utilizing antibodies specific for pyrimidine dimers and other UV-induced DNA lesions have evolved, which permit the study of the induction and repair of these lesions without the requirement of in vivo radiolabeling of DNA. Photoimmunodetection, is a rapid, reliable and low-cost supplement to existing methods for nonradioactive DNA labeling. It enables a sensitive and non-radioactive method for labeling, detection, and quantification of high molecular weight (HMW) DNA fragments. The method is based on the introduction of thymine dimers into DNA after separa-tion by pulse field gel electrophoresis (PFGE), followed by detection with thymine dimer specific antibodies. The method does not require any enzymatic or chemical manipulation of the DNA sample. Monoclonal anti-bodies reacting specifically with thymine dimer, facilitate investigations on the apoptotic process and the role of UV-induced pyrimidine dimers in the process of photocarcinogenesis.

The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.

If you have any questions, special requirements or concerns, please send us an inquiry and/or

contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.40 Preservative: 0.097% Sodium azide Constituent: PBS
Purity	Protein G purified
Primary antibody notes	Non-radioactive labeling of DNA is typically based on the enzymatic incorporation of modified nucleotides, carrying a small chemical moiety such as biotin, digoxigenin or fluorescein. These tags are subsequently detected by specific reagents such as streptavidin or a specific antibody coupled to a signal-producing enzyme. Although very efficient and reliable, labeling by in vitro polymerization is time-consuming, expensive, and may require various post-label purification steps to remove an excess of unincorporated precursors. An alternative strategy for DNA labeling, is based on the UV-induced formation of cyclobutane thymine dimers. Several methods have been described for the detection of thymine dimers, which are based on chromato-graphic analysis, and on biochemical analysis with endonucleases specific for UV-irradiated DNA. In addition, methods utilizing antibodies specific for pyrimidine dimers and other UV-induced DNA lesions have evolved, which permit the study of the induction and repair of these lesions without the requirement of in vivo radiolabeling of DNA. Photoimmunodetection, is a rapid, reliable and low-cost supplement to existing methods for nonradioactive DNA labeling. It enables a sensitive and non-radioactive method for labeling, detection, and quantification of high molecular weight (HMW) DNA fragments. The method is based on the introduction of thymine dimers into DNA after separa-tion by pulse field gel electrophoresis (PFGE), followed by detection with thymine dimer specific antibodies. The method does not require any enzymatic or chemical manipulation of the DNA sample. Monoclonal anti-bodies reacting specifically with thymine dimer, facilitate investigations on the apoptotic process and the role of UV-induced pyrimidine dimers in the process of photocarcinogenesis.
Clonality	Monoclonal
Clone number	H3
Isotype	IgG1

Applications

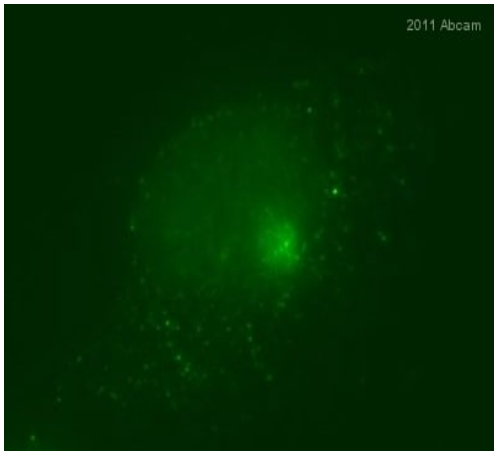
The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab10347 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Southern Blot		Use a concentration of 0.5 - 1 µg/ml.
ICC		Use at an assay dependent dilution.

Application	Abreviews	Notes
Competitive ELISA		Use at an assay dependent dilution.
ELISA	★★★★★ (1)	Use at an assay dependent dilution.
ICC/IF	★★★★☆ (2)	Use at an assay dependent concentration.

Images



Immunocytochemistry/ Immunofluorescence - Anti-Thymine Dimer antibody [H3] (ab10347)

This image is courtesy of an anonymous Abreview.

ab10347 staining Thymine Dimer in HeLa cells by Immunocytochemistry/ Immunofluorescence.
Cells were fixed in formaldehyde, permabilized using 0.5% Triton X-100, blocked with 5% BSA for 15 minutes at 20°C, then incubated with ab10347 at a 1/250 dilution for 16 hours at 4°C. The secondary used was an Alexa-Fluor 488 conjugated rabbit anti mouse polyclonal, used at a 1/500 dilution.

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