abcam

Product datasheet

FITC Anti-DNA/RNA Damage antibody [15A3] ab183393

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Overview

Product name	FITC Anti-DNA/RNA Damage antibody [15A3]
Description	FITC Mouse monoclonal [15A3] to DNA/RNA Damage
Host species	Mouse
Conjugation	FITC. Ex: 493nm, Em: 528nm
Specificity	15A3 binds with high specificity and affinity to oxo8dG (8-hydroxy-2'-deoxyguanosine), oxo8Gua (8-oxo-7,8-dihydroguanine), and oxo8G (8-oxo-7,8-dihydroguanosine) present in biological fluids with Kaff values of 9.2 x 108 M-1, 4.7 x' 17 M-1, and 2.1 x 108 M-1, respectively.
Tested applications	**Suitable for:** ICC/IF, IHC-P, IHC-Fr
Species reactivity	**Reacts with:** Species independent
Immunogen	Chemical/ Small Molecule corresponding to DNA/RNA Damage. 8-hydroxy-guanosine-BSA and -casein conjugates.
General notes	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. Store In the Dark.
Storage buffer	Preservative: 0.09% Sodium azide Constituents: PBS, 50% Glycerol (glycerin, glycerine)
Purity	Protein G purified
Clonality	Monoclonal
Clone number	15A3
Isotype	IgG2b

Light chain type kappa

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab183393 in the following tested applications.

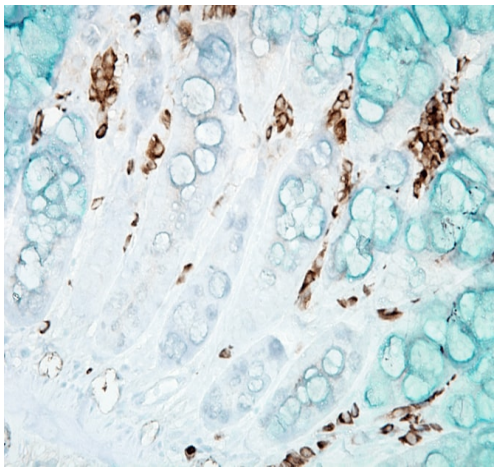
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ICC/IF		Use at an assay dependent concentration.
IHC-P		Use a concentration of 1 - 10 µg/ml.
IHC-Fr		Use a concentration of 1 - 10 µg/ml.

Target

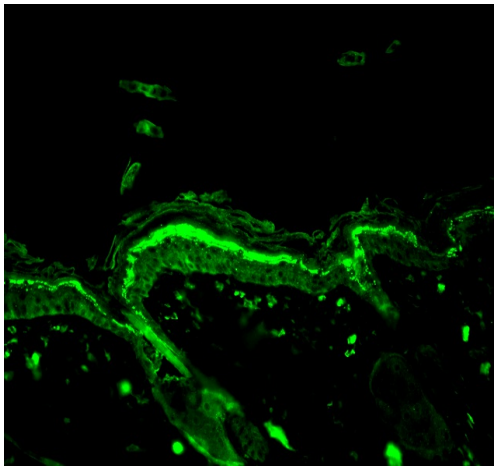
Relevance In intact animals, lesions (adducts) excised from DNA are transported from the cell through the circulation and excreted in urine. In bacteria, DNA adducts are excreted directly into the medium. In either case, the adducts can be assayed as a measure of oxidative damage to DNA. In particular, Oxo-8-dG (8-Oxo-7,8-dihydro-2'-deoxyguanosine) serves as an excellent marker for DNA damage produced by oxidants because it represents one of the major products generated by a wide array of treatments associated with oxidant damage such as that produced by irradiation and various carcinogens and because it is implicated in spontaneous transversion mutagenesis. Oxo-8-Gua (8-oxo-7,8-dihydroguanine) is one of the most common DNA lesions resulting from reactive oxygen species and can result in a mismatched pairing with adenine resulting in G to T and C to A substitutions in the genome. In humans, it is primarily repaired by DNA glycosylase OGG1. It can be caused by ionizing radiation, in connection with oxidative metabolism. Oxo-8-G (8-oxo-7,8-dihydroguanosine) is classified as an oxidized ribonucleotide, and is primarily used in studies of oxidative RNA damage and associated RNA repair and RNA turnover mechanisms within the cell. In the cell, Oxo-8-G RNA lesions are formed by reaction with reactive oxygen species (ROS) generated either via normal oxidative metabolic processes, UV ionizing radiation, or exposure to oxidative agents. Oxidative RNA damage can lead to defects in protein synthesis, for example, decreased rates of protein synthesis and production of aggregated or truncated peptides, with important implications in aging and neurodegenerative disorders and artherosclerosis.

Images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - FITC Anti-DNA/RNA Damage antibody [15A3] (ab183393)

Immunohistochemical analysis of formalin-fixed mouse inflamed colon labelling DNA damage with ab183393 at 1/1000000 dilution, followed by Biotin Goat Anti-Mouse at 1/2000 dilution. Counterstained with Mayer Hematoxylin (purple/blue) nuclear stain.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - FITC Anti-DNA/RNA Damage antibody [15A3] (ab183393)

Immunohistochemical analysis of paraffin-embedded mouse blackskin tissue labelling DNA damage with ab183393 at 1/100 dilution, followed by FITC Goat Anti-Mouse (green) at 1/50 dilution.

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