Mouse DNA/RNA Damage Monoclonal Antibody

DNA/RNA Damage Antibody: ATTO 594

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA102919	**Mouse**	**Recognizes markers of oxidative damage to DNA (8-hydroxy-2'-deoxyguanosine, 8-hydroxyguanine and 8-hydroxyguanosine)**	**Dot Blot, Immunocytochemistry, Immunohistochemistry, ELISA**

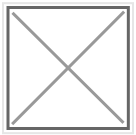
PRODUCT SYNONYMS

DNA/RNA Damage; Monoclonal Antibody; DNA/RNA Damage Antibody: ATTO 594; 8-Hydroxy Guanine; 8-OH-dG; 8OHG; 80G; 8 hydroxyguanine; 8 hydroxy 2 deoxyguanosine; 8 hydroxyguanosine; 8 OHG; 8-OHG; 8OHdG; 8-OHdG Antibody; anti-DNA/RNA Damage antibody

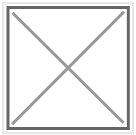
PRODUCT SPECIFICATIONS

Host	Mouse
Reactivity	Recognizes markers of oxidative damage to DNA (8-hydroxy-2'-deoxyguanosine, 8-hydroxyguanine and 8-hydroxyguanosine)
Clonality	Monoclonal
Isotype	IgG2b
Clone Number	15A3
Form/Format	Protein G Purified
Concentration	1mg/mL (varies by lot)
Applicable Applications for anti-DNA/RNA Damage antibody	DB (Dot Blot), ICC (Immunocytochemistry), IHC (Immunohistochemistry), ELISA
Conjugate	ATTO 594
Storage Buffer	PBS, 50% glycerol, 0.09% sodium azide
Preparation and Storage	-20 degree C

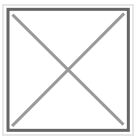
IMAGES



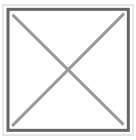
IHC (Immunohistochemistry)
Immunohistochemistry analysis using Mouse Anti-DNA Damage Monoclonal Antibody, Clone 15A3. Tissue: Ischemic fresh brain tissue. Species: Rat. Primary Antibody: Mouse Anti-DNA Damage Monoclonal Antibody at 1:1000 for 16 hours at RT. Secondary Antibody: Alexa Fluor 546 Goat Anti-mouse (Red) at 1:500 for 1 hour at RT. Localization: Cerebral Cortex. Courtesy of: Dr. Yi Yang, U. New Mexico.



IHC (Immunohistochemisry)
Immunohistochemistry analysis using Mouse Anti-DNA Damage Monoclonal Antibody, Clone 15A3. Tissue: backskin. Species: Mouse. Fixation: Bouin's Fixative and paraffin-embedded. Primary Antibody: Mouse Anti-DNA Damage Monoclonal Antibody at 1:100 for 1 hour at RT. Secondary Antibody: FITC Goat Anti-Mouse (green) at 1:50 for 1 hour at RT.



IHC (Immunohiostchemistry)
Immunohistochemistry analysis using Mouse Anti-DNA Damage Monoclonal Antibody, Clone 15A3. Tissue: inflamed colon. Species: Mouse. Fixation: Formalin. Primary Antibody: Mouse Anti-DNA Damage Monoclonal Antibody at 1:1000000 for 12 hours at 4 degree C. Secondary Antibody: Biotin Goat Anti-Mouse at 1:2000 for 1 hour at RT. Counterstain: Mayer Hematoxylin (purple/blue) nuclear stain at 200 ul for 2 minutes at RT. Magnification: 40x. With anti-microbial.



IHC (Immunohistochemistry)
Immunohistochemistry analysis using Mouse Anti-DNA Damage Monoclonal Antibody, Clone 15A3. Tissue: Retinal Injury Model. Species: Mouse. Primary Antibody: Mouse Anti-DNA Damage Monoclonal Antibody at 1:1000. Secondary Antibody: Alexa Fluor 594 Goat Anti-Mouse (red). Courtesy of: Dr. Rajashekhar Gangaraju, University of Indiana, Department of Ophthalmology, Eugene and Marilyn Glick Eye Institute.

ADDITIONAL INFORMATION

Related Product Information for anti-DNA/RNA Damage antibody	**Background Info:** Recognizes markers of oxidative damage to DNA (8-hydroxy-2-deoxyguanosine, 8-hydroxyguanine and 8-hydroxyguanosine). **Scientific Background:** DNA or RNA damage is due to environmental factors and normal metabolic processes inside the cell, that then hinder the ability of the cell to carry out its functions. There are four main types of DNA due to endogenous cellular processes and they are oxidation, alkylation, hydrolysis and mismatch of the bases. During the oxidation of bases, highly reactive chemical entities collectively known as RONS, occurs. RONS stands for reactive oxygen and nitrogen species and includes nitric oxide, superoxide, hydroxyl radical, hydrogen peroxide and peroxynitrite. Numerous studies have shown that RONS causes a variety of issues including DNA damage (1). 8-hydroxyguanine, 8-hydroxy-2'-deoxyguanonsine and 8- hydroxyguanosine are all RNA and DNA markers of oxidative damage. 8-hydroxy-2'-guanosine is produced by reactive oxygen and nitrogen species including hydroxyl radical and peroxynitrite. Specifically its high biological relevance is due to its ability to induce G to T transversions, which is one of the most frequent somatic mutations (2). 8-hydroxy-guanine has been the most frequently studied type of DNA base damage, with studies in diabetes, and cancer. Base modifications of this type arise from radical-induced hydroxylation and cleavage reactions of the purine ring (3, 4). And finally, 8-hydroxy-guanosine, like 8-hydroxy-2'-guanosine, induces a mutagenic transversion of G to T in DNA. Its role has specifically been tested in the development of diabetes, hypertension and strokes (5, 6, and 7).
Product Categories/Family for anti-DNA/RNA Damage antibody	Oxidative Stress; Post-translational Modifications
References	1. Kim H.W., Murakami A., Williams M.V., and Ohigashi H. (2003) Carcinogenesis 24(2): 235-241. 2. Pilger A. and Rudiger H.W. (2006) Int Arch Occup Environ Health. 80(1): 1-15. 3. Malins D.C. and Haimanot R. (1991) Cancer Res. 51(19): 5430-5432. 4. Kvam E. and Tyrrell R.M. (1997) Carcinogenesis 18(11): 2281-2283. 5. Kowluru R.A., Atasi L., and Ho Y.S. (2006) Invest Ophthalmol Vis Sci 47(4): 1594-9. 6. Bowers R. et al. (2004) Am J Respir Crit Care Med. 169(6): 764-9. 7. Cui J., Holmes E.H., Greene T.G., and Liu P.K. (2000) Faseb J. 14(7): 955-67. 1. Brennan, L.J., Haukedal, J.A., Earle, J.C., Keddie, B. and Harris, H.L. (2012). Disruption of redox homeostasis leads to oxidative DNA damage in spermatocytes of Wolbachia-infected Drosophila simulans. Insect Mol Biol. 21 (5), 510-520. doi: 10.1111/j.1365-2583.2012.01155.x

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: https://stage.aaabiotech.com/monoclonal/dna-rna-damage-antibody-clone-15a3-dot-blot-immunocytochemistry-immunohistochemistry-elisa/102919