

## 8-OHdG (J-1): sc-139586

### BACKGROUND

DNA or RNA damage can hinder the ability of a cell to carry out its function and can significantly increase the likelihood of tumor formation. One of the causes of damaged DNA and RNA is oxidation of the bases. 8-hydroxy-2'-deoxyguanosine, 8-hydroxyguanine (8-OHdG) and 8-hydroxyguanosine are all markers of oxidative damage to RNA and DNA. 8-hydroxy-2'-deoxyguanosine is produced by reactive oxygen and nitrogen species, including hydroxyl radical and peroxynitrite. 8-hydroxyguanine is one of the major base lesions involved in mutagenesis and is caused by ionizing radiation and radiomimetic agents. 8-hydroxy-guanosine induces a transversion of G to T in DNA, which may be mutagenic. Markers of DNA and RNA damage are useful research tools when studying the effects of this type of damage.

### REFERENCES

- Musarrat, J., et al. 1996. Prognostic and aetiological relevance of 8-hydroxyguanosine in human breast carcinogenesis. *Eur. J. Cancer* 32: 1209-1214.
- Parker, A.R., et al. 2002. 8-hydroxyguanosine repair is defective in some microsatellite stable colorectal cancer cells. *Cancer Res.* 62: 7230-7233.
- Abe, T., et al. 2002. Alteration of 8-hydroxyguanosine concentrations in the cerebrospinal fluid and serum from patients with Parkinson's disease. *Neurosci. Lett.* 336: 105-108.
- Winter, D.B., et al. 2003. Normal somatic hypermutation of Ig genes in the absence of 8-hydroxyguanine-DNA glycosylase. *J. Immunol.* 170: 5558-5562.
- Russo, M.T., et al. 2004. Accumulation of the oxidative base lesion 8-hydroxyguanine in DNA of tumor-prone mice defective in both the MYH and OGG1 DNA glycosylases. *Cancer Res.* 64: 4411-4414.
- Okugawa, Y., et al. 2006. UVA-induced degradation of 8-hydroxyguanine in oligonucleotide and the effect on its activities in yeast oligonucleotide transformation assay. *Nucleic Acids Symp. Ser.* 48: 287-288.
- Watanabe, E., et al. 2006. Significance of 8-hydroxy-2'-deoxyguanosine levels in patients with idiopathic dilated cardiomyopathy. *J. Card. Fail.* 12: 527-532.
- Noblitt, S.D., et al. 2007. The role of metal ion binding in generating 8-hydroxy-2'-deoxyguanosine from the nucleoside 2'-deoxyguanosine and the nucleotide 2'-deoxyguanosine-5'-monophosphate. *J. Inorg. Biochem.* 101: 536-542.
- Kuo, H.W., et al. 2007. Urinary 8-hydroxy-2'-deoxyguanosine (8-OHdG) and genetic polymorphisms in breast cancer patients. *Mutat. Res.* 631: 62-68.

### SOURCE

8-OHdG (J-1) is a rabbit polyclonal antibody raised against 8-Hydroxy-2'-deoxyguanosine (8-OHdG)-BCP conjugate of synthetic origin of 8-OHdG of synthetic origin.

### PRODUCT

Each vial contains 100 µg IgG<sub>2b</sub> in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

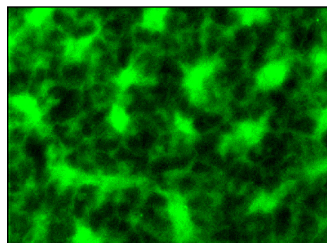
### APPLICATIONS

8-OHdG (J-1) is recommended for detection of 8-OHdG (8-Hydroxy-2'-deoxyguanosine) by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 2) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

### DATA



8-OHdG (J-1): sc-139586. Immunofluorescence staining of formalin-fixed, paraffin-embedded red snapper liver tissue showing 8-OHdG staining in hepatocytes. Kindly provided by Saydur Rahman, Ph.D., Marine Science Institute, University of Texas.

### SELECT PRODUCT CITATIONS

- Calvo-Castro, L., et al. 2013. Protective effect of tropical highland blackberry juice (*Rubus adenotrichos* Schldl.) against UVB-mediated damage in human epidermal keratinocytes and in a reconstituted skin equivalent model. *Photochem. Photobiol.* 89: 1199-1207.

### 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.

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Try **8-OHdG (E-8): sc-393871** or **8-OHdG (F-12): sc-393870**, our highly recommended monoclonal alternatives to 8-OHdG (J-1). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **8-OHdG (E-8): sc-393871**.