

**GOAT ANTI- 8-HYDROXYDEOXYGUANOSINE (8-OHdG)  
POLYCLONAL ANTIBODY**

**CATALOG NUMBER:** AB5830

**LOT NUMBER:**

**QUANTITY:** 200 µL

**SPECIFICITY:** Reacts with 8-Hydroxydeoxyguanosine (8-OHdG) and 8-Hydroxyguanosine (8-OHG). By a competitive ELISA the antibody was 100% inhibited by 8-hydroxydeoxyguanosine and 8-hydroxyguanosine nucleotides. Partial cross-reactivity was observed with 8-mercaptoguanosine (80%) while 8-bromoguanosine showed some cross-reactivity (5%). 2-Deoxyadenosine, 7-methylguanosine, guanosine monophosphate and guanosine showed no reactivity.

**BACKGROUND:** 8-Hydroxydeoxyguanosine (8OHdG) is a modified base that occurs in DNA due to attack by hydroxyl radicals that are formed as byproducts and intermediates of aerobic metabolism and during oxidative stress. There is increasing evidence to support the involvement of free radical reactions in the damage of biomolecules that eventually lead to several diseases in humans, such as atherosclerosis, cerebral and heart ischemia-reperfusion injury, cancer, rheumatoid arthritis, inflammation, diabetes, aging, and neurodegenerative conditions, such as Alzheimer's disease.

8OHdG has become increasingly popular as a sensitive, stable and integral marker of oxidative damage in cellular DNA. Biomonitoring in humans has demonstrated that 8OHdG can be excreted in the urine, and that a significant increase is caused by exposure to tobacco smoke and ionizing radiation. Because 8OHdG is so well correlated with oxidative stress and damage to DNA, which leads to degenerative disease states, the development of an antibody that can be used to study DNA damage has numerous applications. In addition to the direct study of DNA damage within cells, this antibody has applications in the development of immunoassays that can monitor 8OHdG excretion in the urine and serve as a biomarker of oxidative stress. Industrial uses may extend to the dietary supplement manufacturers, who could benefit from an immunoassay that could be used to test the effectiveness of antioxidants and other nutraceuticals.

**IMMUNOGEN:** 8-Hydroxy-2'-deoxyguanosine and 8-hydroxyguanosine.

**APPLICATIONS:** Immunohistochemistry: ≥ 1:200 on paraffin embedded, formalin fixed human brain. It is suggested that the tissues are pretreated with 10 µg/mL of proteinase K for 40 minutes at 37°C prior to staining.

ELISA against immunogen peptide: ≥ 1:250,000  
Optimal working dilutions must be determined by the end user.

**SPECIES REACTIVITIES:** Human.

**FORMAT:** Goat serum.

**PRESENTATION:** Liquid containing 0.01% Thimerosal.

**STORAGE/HANDLING:** Maintain at -20°C in undiluted aliquots for up to 12 months after date of receipt. Avoid repeated freeze/thaw cycles.

**REFERENCE:** Van Everbroeck, B., et al., *Acta Neuropathol* (2004) **108**:194-200.

*For research use only; not for use as a diagnostic.*

**Important Note:** *During shipment, small volumes of product will occasionally become entrapped in the seal of the product vial. For products with volumes of 200  $\mu$ L or less, we recommend gently tapping the vial on a hard surface or briefly centrifuging the vial in a tabletop centrifuge to dislodge any liquid in the container's cap.*

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