



Genesis Biotech Inc.

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Anti-8-hydroxy-2'deoxyguanosine (8-OHdG) Mouse Monoclonal Antibody

Catalog No. GB-52004

Quantity: 100 µg

Conjugate: Unconjugated

Applications tested: ELISA, IHC

Host species: Mouse

Form: Affinity purified antibody

Type: Mouse monoclonal antibody, IgG1 Clone No.: 7D7E4

Reactivity : Hamster, human

Target description

Oxygen is necessary for aerobic life, it can also participate in potentially toxic reactions involving oxygen free radicals and transition metals such as Fe that damage membranes, proteins, and nucleic acids. In a normal human cell, there is a steady accumulation of DNA lesions with time. Substantial parts of these lesions are due to endogenous factors that damage DNA. These include reactive oxygen species (ROS, for example, superoxide anion, hydrogen peroxide, and hydroxyl radical) derived from oxidative respiration. Additionally, malignant cells can produce hydrogen peroxide at levels as high as those characteristics for stimulated polymorphonuclear leukocytes. Some tumors may stimulate the defense systems of the body so that they react against the tumor to produce cytokines. Some cytokines can produce large amounts of ROS. 8-OHdG is one of the most widely studied lesions of this type. The presence of 8-OHdG residues in DNA leads to GC to TA transversion unless repairs are made before DNA replication. Therefore, the presence of 8-OHdG may lead to mutagenesis. Furthermore, many observations indicate a direct correlation between 8-OHdG formation and carcinogenesis *in vivo*. It is generally accepted that the repair products of cellular DNA, for example 8-OHdG, are excreted into the urine without further metabolism. Therefore, 8-OHdG has been proposed as a urinary biomarker for *in vivo* oxidative DNA lesions.

Antigen

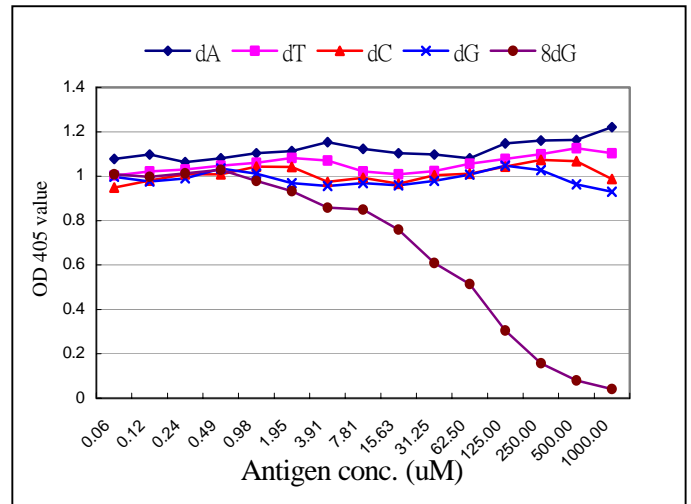
The antibody was raised in mouse by using 8-hydroxy-2'deoxyguanosine (8-OHdG) conjugated to carrier protein as immunogen.

Application

1. The antibody has been tested with competitive ELISA by using 2'-deoxyadenosine (dA), 2'-deoxythymidine (dT), 2'-deoxycytidine (dC), 2'-deoxyguanosine (dG) as competitive antigen.
2. we recommend 1/50 dilution for IHC staining on paraffin embedded sections.

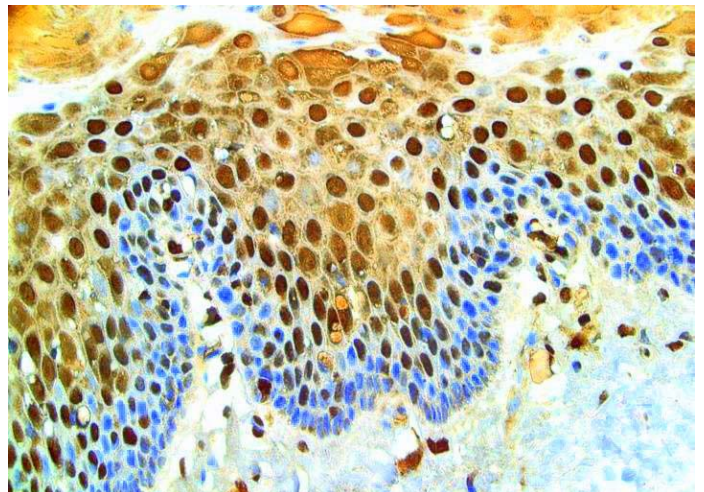
Related Products

1. Anti-TEM5 pAb (GB-30028).
2. Anti-TEM8 pAb (GB-10009).
3. Anti-PRL-3 rabbit mAb (GB-63023).
4. Anti-PRL-3 pAb (GB-10343).
5. Anti-FLJ23603 rabbit mAb (GB-63024).
6. Anti-FLJ23603 pAb (GB-30024).
7. Anti-ZD52F10 pAb (GB-30025).
8. Anti-LOC54675 pAb (GB-30032).



A. Competitive ELISA

This 8-OHdG monoclonal antibody does not cross react with 2'-deoxyadenosine (dA), 2'-deoxythymidine (dT), 2'-deoxycytidine (dC), 2'-deoxyguanosine (dG) at 1mM and lower concentration. The experiment data is shown as above figure. We recommend 5,000x dilution as the working solution for detecting 0.1 ng of 8-OHdG-BSA.



B. Immunohistochemistry (IHC) staining

This is the sample from oral cancer patients. It shows that this monoclonal antibody not only can stain the DNA damage in cytoplasm but also in the nuclear.

Storage

It is supplied as affinity purified antibody in lyophilized powder. Redissolve the powder with 100 microliter sterile water will restore to the original concentration 1mg/mL. Store at 4°C for short term application. For long-term storage, aliquot and store at -20°C.

References

1. Gianpiero Romano, Alessandro Sgambato, Rita Mancini², Giovanni Capelli¹, Maria Rosaria Giovagnoli², Giovanna Flamini, Alma Boninsegna, Aldo Vecchione² and Achille Cittadini. 8-Hydroxy-2'-deoxyguanosine in cervical cells: correlation with grade of dysplasia and human papillomavirus infection *Carcinogenesis*, Vol. 21, 1143-1147, 2000.

2. Rafal Rozalski, Daniel Gackowski, Krzysztof Roszkowski, Marek Foksinski and Ryszard Olinski. The Level of 8-Hydroxyguanine, a Possible Repair Product of Oxidative DNA Damage, Is Higher in Urine of Cancer Patients than in Control Subjects *Cancer Epidemiology Biomarkers & Prevention* Vol. 11, 1072-1075, 2002.