

**MOLECULAR SIGNATURE®  
DNA Damage  
(8-OHdG) ELISA  
Kit**

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Colorimetric detection of 8-hydroxy-2-deoxy Guanosine  
Catalog No. SKT-120

**Product Name**

DNA Damage (8-OHdG) ELISA Kit

**Description**

Colorimetric detection of 8-hydroxy-2-deoxy Guanosine

**Species Reactivity**

Species Independent

**Platform**

Microplate

**Sample Types**

Cell lysates, Plasma, Sample matrices, Urine

**Detection Method**

Colorimetric Assay

**Assay Type**

Competitive ELISA (Enzyme-linked Immunosorbent Assay)

**Utility**

ELISA Kit for 8-OHdG detection in samples.

**Sensitivity**

0.59 ng/mL

**Assay Range**

0.94 - 60 ng/mL

## Precision

Intra-Assay Precision: Three samples of known concentration were assayed thirty times on one plate; the intra-assay coefficient of variation of the DNA Damage ELISA has been determined to be <5%. Inter-Assay Precision: Three samples of known concentration were assayed thirty times in three individual assays; the inter-assay coefficient of variation of the DNA Damage ELISA has been determined to be <5%.

## Incubation Time

1 hour

## Number Of Samples

39 samples in duplicate

## Other Resources

Kit Booklet - Storage Conditions Updated May 2024 , MSDS , DNA Damage ELISA Kit Calculations Worksheet

## Field Of Use

Not for use in humans. Not for use in diagnostics or therapeutics. For in vitro research use only.

## Properties

### Storage Temperature

4°C and -20°C

### Shipping Temperature

Blue Ice

### Product Type

ELISA Kits

### Assay Overview

1. Prepare standard and samples in the Sample and Standard Diluent.
2. Add 50 µL of prepared standards and samples in triplicate to appropriate wells.
3. Add 50 µL of the diluted antibody preparation to the appropriate wells.
4. Cover plate with Plate Cover and incubate at room temperature (20-25°C) for 1 hour.
5. Wash plate 4 times with 1X Wash Buffer.
6. Add 100 µL of TMB Substrate to each well.
7. Cover plate and develop the plate in the dark at room temperature for 30 minutes.
8. Add 100 µL of Stop Solution to each well.
9. Measure absorbance on a plate reader at 450 nm.
10. Plot the standard curve and calculate sample concentrations.

## Kit Overview

### Component No.

**Item****Quantity / Size****SKC-120A**

8-hydroxy-2-deoxy Guanosine : BSA Coated Plate

1 Plate

**SKC-120C**

8-hydroxy-2-deoxy Guanosine Standard

1 vial/ 100uL

**SKC-120F**

8-hydroxy-2-deoxy Guanosine HRP Conjugated Monoclonal Antibody

1 vial/75uL

**SKC-0001**

Sample and Standard Diluent

1 vial/50mL

**SKC-0002**

8-hydroxy-2-deoxy Guanosine Antibody Diluent

1 vial/13mL

**SKC-0003**

Wash Buffer Concentrate

1 vial/50mL

**SKC-0004**

TMB Substrate

1 vial/13mL

**SKC-0005**

Stop Solution

1 vial/13mL

**SKC-0009**

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Plate Cover

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2 covers**Cite This Product**

DNA Damage (8-OHdG) ELISA Kit (StressMarq Biosciences, Canada, Cat # SKT-120)

**Biological Description**

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**Alternative Names**

8 hydroxyguanine, 8-OH-dG, 8-OHdG, 80G, 8OHG, DNA Damage

**Research Areas**

Cancer, Cell Signaling, DNA Damage and Repair, DNA/RNA, Epigenetics and Nuclear Signaling, Oxidation, Oxidative Stress, Post-translational Modifications

**Scientific Background**

8-hydroxy-2'-deoxyguanosine (8-OHdG) is a widely recognized biomarker of oxidative DNA damage, formed when reactive oxygen and nitrogen species modify guanine bases. This hydroxylation process occurs during normal metabolism and is amplified by environmental stressors that increase oxidative load. Elevated levels of 8-OHdG are strongly associated with aging and a range of chronic conditions, including cancer, diabetes, hypertension, and neurodegenerative diseases.

In neuroscience, 8-OHdG serves as a critical indicator of oxidative stress in brain tissue, where neurons are particularly vulnerable due to high metabolic activity and lipid content. Increased 8-OHdG levels have been linked to the progression of Alzheimer's, Parkinson's, and other neurodegenerative disorders, making it a valuable tool for monitoring disease onset and therapeutic response.

8-OHdG can exist as a free nucleoside or be incorporated into DNA. In biological samples such as plasma, cell lysates, and tissues, its detection is complex; however, urine provides a more reliable matrix for measuring free 8-OHdG due to efficient renal filtration. Typical urinary concentrations range from 2.7–13 ng/mg creatinine, while plasma levels are significantly lower, often between 4–21 pg/mL as measured by LC-MS.

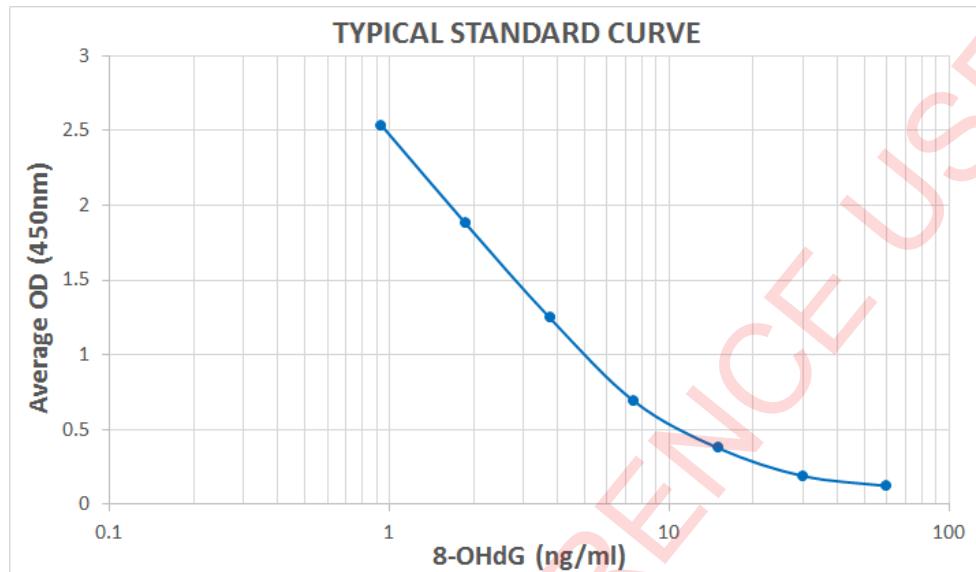
By tracking 8-OHdG levels, researchers gain insight into cellular oxidative damage, enabling early detection and evaluation of antioxidant-based interventions in neurodegenerative disease research.

**References**

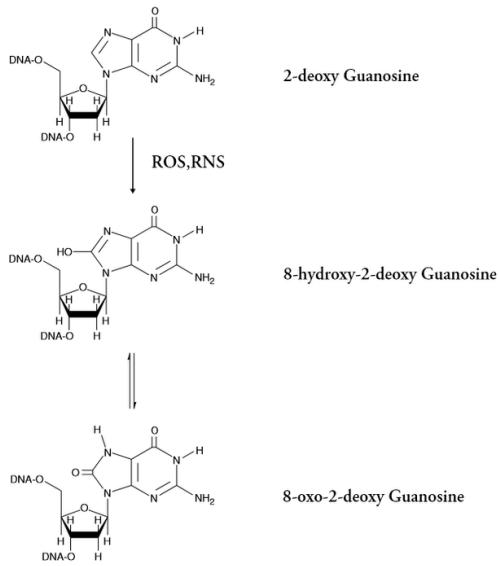
1. Maxey K.M., Maddipati K.R., Birkmeier J. (1992) J Clin Immunoassay 15: 116-120.
2. Pradelles P., Grassi J., Maclouf J. (1990) Methods Enzymol. 187: 24-34.
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11. Beckman K.B., Ames B.N. (1997) J Biol Chem 272: 19633-19636.
12. Epe B., et al. (1996) Nucleic Acids Res 24: 4105-4110.
13. Spencer J.P.E., et al. (1995) FEBS Lett 374: 233-236.
14. Floyd R.A. (1990) FASEB J 4: 2587-2597.

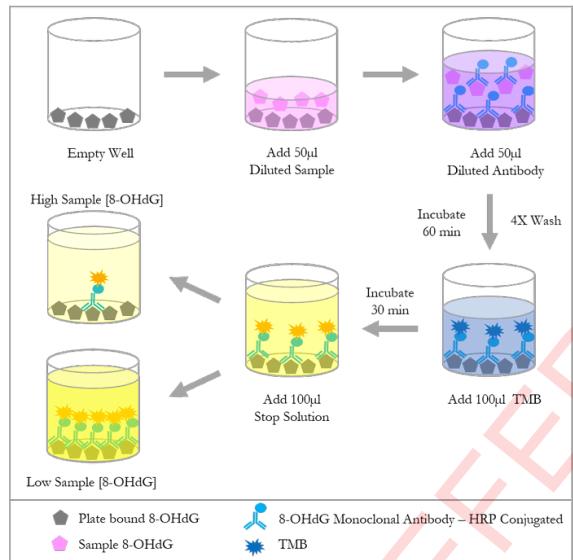
## Product Images



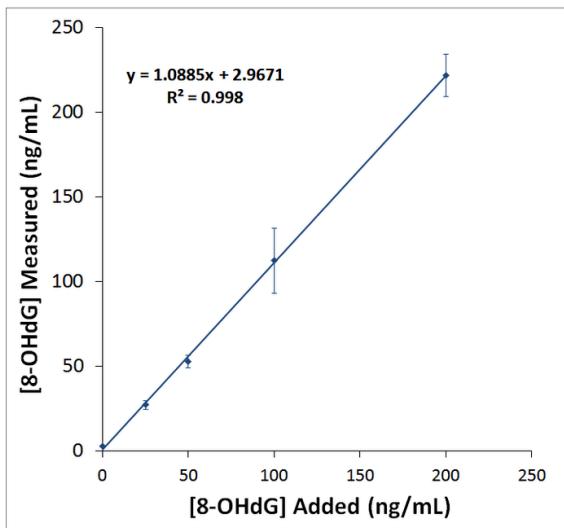
Typical Standard Curve for the DNA Damage (8-OHdG) ELISA kit (Enzyme-Linked Immunosorbent Assay) StressXpress® – SKT-120. Assay Type: Competitive ELISA. Detection Method: Colorimetric Assay. Assay Range: 0.94 – 60 ng/ml.



### Chemical Equation of the Oxidation of Guanosine



### Diagram of the 8-OHdG Competitive ELISA



### Urine Spike Assay

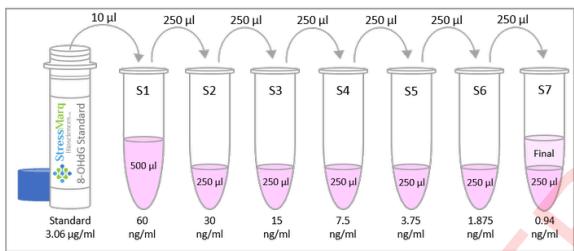


Diagram of the Preparation of the 8-OHdG Standards

### Reviews

Based on validation through cited publications.



StressMarq Biosciences

January 17, 2017:

## Product Citations

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FOR REFERENCE USE ONLY

93/100 Bioz Rating

116 Citations 12 Images

## 12 Images

- Export this page of citations
- Export first 100 citations
- Export first 100 citations (Mende

**Bioz AI Summary:** The **DNA Damage 8 OHdG ELISA Kit** from **StressMarq** has emerged as a

Search term

## Techniques ▾

- Search for Techniques
- 
- Enzyme-linked Immunosorbent Assay (ELISA)
  -
- Concentration Assay (CO-A)
  -
- DNA Extraction (DNA-EX)
  -
- Incubation (INCU)
  -
- Isolation (ISOLAT)
  -

## • Journals ▾

- Search for Journals
- PLoS ONE
  -
- Antioxidants
  -
- The Journal of experimental biology
  -
- Antioxidants (Basel Switzerland)
  -
- Diabetes
  -
- Drug and chemical toxicology
  -
- Environmental pollution (Barking Essex : 1987)
  -

## Dates

## Functional Genomics Studies of Psychiatric Disorders in Individuals of Latin American Populations: A Scoping Review

Luz M. Manker, Isabelle Rodríguez-Lausell, ..., Paola Giusti-Rodríguez Free radical research

American journal of medical genetics. Part... | 2025 Sep 27 | 41014243 | Read Article | Bioz AI Brief

**"Bioz At Summary** In the study, **DNA Damage 8 OHdG ELISA Kit** from **StressMark** was used to measure oxidative stress in individuals with bipolar disorder type 1 (BD1). The kit enables the measurement of 8-OHdG in biological samples. [More...](#)

Biomarker Discovery  
in Cell Culture

## ACT-A

## ELISA

- Journal of Functional Foods
- Neural Regeneration Research

Cited 3 times

**A2'• attenuates oxidized self-DNA-mediated inflammation in acute kidney injury**

- Modification Article Snippet (MOD)

".. 5  $\mu$ g DNA using Lipofectamine 3000 (Thermo Fisher Scientific #13000015) according to the instructions.. The 8OH-dG level in samples was detected by a DNA Multiple Displacement Amplification (MDA) **Damage 8OHdG ELISA Kit (StressMarq Biosciences, AGAT#SKT-120)** Oxidized dsDNA90 is used as a positive control.Oxidized dsDNA90 is used as a positive .." [More...](#)

- Figure Legend

"...Spectrophotometry (SPH) 0.001. c Fluorescence microscopy of **8OH-dG** (red) in kidneys of mice that were treated ..." [More...](#)

- Binding Assay

[IRRA](#) [TNSF](#) [ELISA](#) [DNA-EX](#)

- Purification (PURI)

- Chromatography

Cited 2 times

### Oxidized low-density lipoprotein potentiates angiotensin II-induced Gq activation through the AT1-LOX1

Jittoku Ihara, Yibin Huang, ..., Matthias Barton

".. Urine tests in mice included the measurement of urine 8-OHdG, creatinine, and albumin concentrations. Amplification (StressMarq Bioscience, Canada), Creatinine Kit L type Wako (Fujifilm, Japan), and Mouse Albumin ELISA Kit (Bethyl Laboratories, AMI) these measurements, following their respective instructions." [More...](#)

- Staining

[ELISA](#)

- Colorimetric Assay (COLOR-A)

- Control (CON)

- Flow Cytometry

### Oxidized low-density lipoprotein potentiates angiotensin II-induced Gq activation through the AT1-LOX1 in

Jittoku Ihara, Yibin Huang, ..., Koichi Yamamoto

".. tests in mice included the measurement of urine 8- OHdG, creatinine, and albumin concentrations.. The DNA Damage ELISA Kit (StressMarq Bioscience, Canada), Creatinine Kit L type Wako (Fujifilm, Japan), and Mouse Albumin ELISA Kit (Bethyl Laboratories, AMI) these measurements, following their respective instructions.. Plasma LOX-1 ligand concentration Measurement of LOX-1 (RECQL) More..(SAL)"

- Sandwich ELISA (ELISA-S)

[MOD](#) [ELISA](#)

[Clinical Proteomics](#)

- Standard Deviation (SD)

- T-bars

### Oxidative stress in the brain is regulated by social status in a highly social cichlid fish

Peter D (T-bars) Robert J. Fialkowski, ..., Ashley R. Harvey

- Agarose Gel Electrophoresis

[Art](#) [GEA](#) [Snippet](#)

- Acta Neuropathologica

- American Journal of Physiology -

- Regulatory Integrative and Comparative Physiology

- American journal of medical genetics. Part B Neuropsychiatric genetics : the official publication of the International Society of Psychiatric Genetics

- American journal of nephrology

- Archives of toxicology

- BMC Complementary Medicine and Therapies

- BMC Psychiatry

- BMJ Open Respiratory Research

- Behavioral Ecology and Sociobiology

- Behavioural brain research

- Benha Veterinary Medical Journal

- Biomaterials

- ELISA

- Biomedicine & pharmacotherapy = Biomedecine & pharmacotherapie

- Biochemical pharmacology

- Biomaterials

- Biomedicines

- Biotechnology journal

.. damage assay. Following digestion, samples were stored at  $-20^{\circ}\text{C}$ . **8-OHdG DNA damage** (8-OHdG) was measured with a **DNA damage ELISA kit** (Stressmarq Biosciences Inc., Victoria, BC, Canada) following a comparative assay with 8-OHdG ELISA kit (Cell Biolabs). We diluted each digested sample in sample and standard dilution log. **Monochinoninic Acid Protein Assay** (integrative physiology

### Figure Legend

Figure Legend • Cureus  
"... total antioxidant capacity, total glutathione (GSH), and oxidative DNA damage. We collected samples from 20 dominant" [More...](#) • Diabetologia (Biomarker Discovery)



**Oxidative stress in the brain is regulated by social status in a highly social cichlid fish**

Peter D. Dijkstra, Robert J. Fialkowski, ...., Ashley R. Harvey

Frontiers in Behavioral Neuroscience | 2024 Nov 26 | Read Article | Bioz AI Brief |  

- Cureus and oxidative DNA damage. We
- Diabetologia
- Dose-response : a publication of International Hormesis Society
- Environment international
- Environmental Health

## Article Snippet

.. DNA damage assay. Following digestion, samples were stored at 20°C until use in DNA damage assay.. DNA damage (8-OHdG) was measured with a **DNA damage ELISA kit** (**StressMarq Biosciences Inc.**, Victoria, BC, Canada) following manufacturer's protocol.. We diluted each digested sample in sample and standard diluent to ensure samples were ..  
More..

### Table Legend

" Statistical (ETHP) results comparing measurements of oxidative stress between dominant and subordinate males. " • Environmental science and pollution

- Expressing (EXP)  
THP 
- ELISA 
- MARK 
- CO-A 
- research international
- Ethology



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