

Product datasheet

8-hydroxy 2 deoxyguanosine ELISA Kit ab201734

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Overview

Product name 8-hydroxy 2 deoxyguanosine ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Spiked	90			< 5%

Inter-assay

Sample	n	Mean	SD	CV%
Spiked	90			< 5%

Sample type Cell culture supernatant, Saliva, Urine, Serum, Plasma, Tissue Extracts, Cell Lysate

Assay type Competitive

Sensitivity = 0.59 ng/ml

Range 0.94 ng/ml - 60 ng/ml

Assay time 2h 00m

Assay duration Multiple steps standard assay

Product overview 8-hydroxy 2 deoxyguanosine ELISA Kit (8-OHdG) (ab201734) is a competitive assay that can be used for the quantification of 8-OHdG in urine, cell culture, plasma, and other sample matrices. The ELISA utilizes an 8-hydroxy-2-deoxyguanosine-coated plate and an HRP-conjugated antibody for detection which allows for an assay range of 0.94 - 60 ng/mL, with a sensitivity of 0.59 ng/mL. The other highlights of this kit are a quick incubation time of 60 minutes, stable reagents, and an easy to use protocol.

It is important to note that the 8-OHdG antibody used in this assay recognizes both free 8-OHdG and DNA-incorporated 8-OHdG. Since complex samples such as plasma, cell lysates, and tissues are comprised of mixtures of DNA fragments and free 8-OHdG, concentrations of 8-OHdG reported by ELISA methodology will not coincide with those reported by LC-MS where the single nucleoside is typically measured. This should be kept in mind when analyzing and interpreting experimental results.

Notes 8-hydroxy-2-deoxy Guanosine (8-OHdG) is produced by the oxidative damage of DNA by reactive oxygen and nitrogen species and serves as an established marker of oxidative stress. Hydroxylation of guanosine occurs in response to both normal metabolic processes and a variety of environmental factors (i.e., anything that increases reactive oxygen and nitrogen species). Increased levels of 8-OHdG are associated with the aging process as well as with a number of pathological conditions including cancer, diabetes, and hypertension.

In complex samples such as plasma, cell lysates, and tissues, 8-OHdG can exist as either the free nucleoside or incorporated in DNA. Once the blood enters the kidney, free 8-OHdG is readily filtered into the urine, while larger DNA fragments remain in the bloodstream. Because of the complexity of plasma samples, urine is a more suitable matrix for the measurement of free 8-OHdG than plasma. Urinary levels of 8-OHdG range between 2.7- 13 ng/mg creatine, while plasma levels of free 8-OHdG have been reported to be between 4-21 pg/mL as determined by LC-MS.

Platform Pre-coated microplate (12 x 8 well strips)

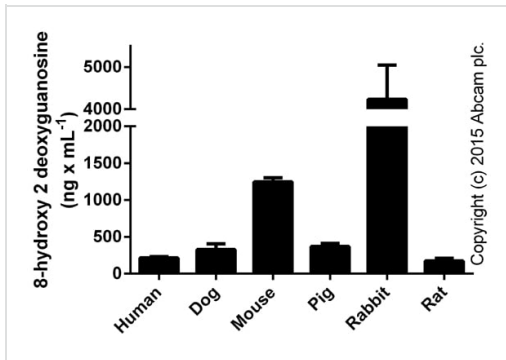
Properties

Storage instructions Store at -20°C. Please refer to protocols.

Components	1 x 96 tests
8-hydroxy-2-deoxy Guanosine Antibody Diluent (Blue)	1 x 13ml
8-Hydroxy-2-Deoxy Guanosine BSA Coated Plate	1 unit
8-hydroxy-2-deoxy Guanosine HRP Conjugated Monoclonal Antibody	1 x 75µl
8-hydroxy-2-deoxy Guanosine Sample and Standard Diluent (Red)	1 x 50ml
8-hydroxy-2-deoxy Guanosine Standard	1 x 100µl
8-hydroxy-2-deoxy Guanosine Stop Solution	1 x 13ml
8-hydroxy-2-deoxy Guanosine TMB Substrate	1 x 13ml
8-hydroxy-2-deoxy Guanosine Wash Buffer Concentrate (10X)	1 x 50ml
Plate Cover	2 units

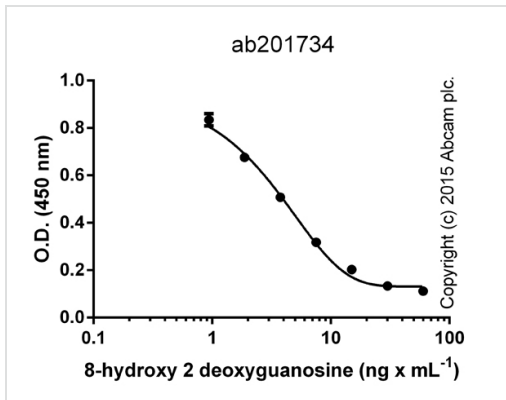
Relevance Oxidative damage of DNA or RNA by reactive oxygen and nitrogen species produces 8-hydroxy Guanine. This can serve as a measure of oxidative stress.

Images



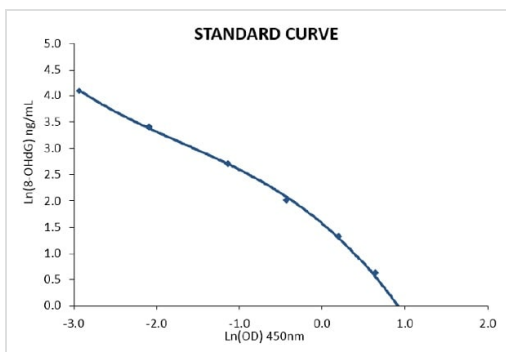
8-hydroxy 2 deoxyguanosine measured in urine (dilution test range: 1/10-1/200; duplicates; +/- SD).

Competitive ELISA: ab201734 8-hydroxy 2 deoxyguanosine ELISA Kit



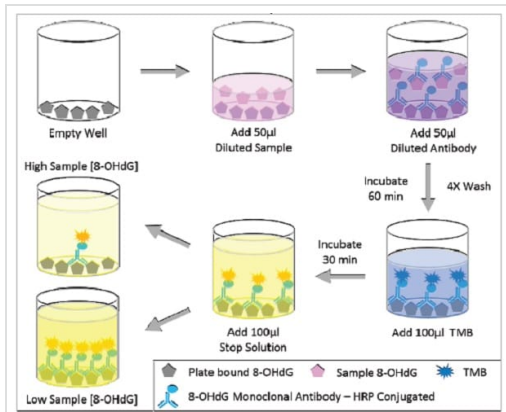
Standard curve with background signal subtracted (duplicates; +/- SD).

Competitive ELISA: ab201734 8-hydroxy 2 deoxyguanosine ELISA Kit



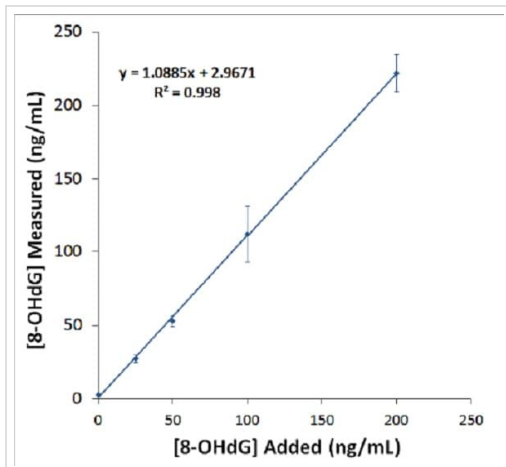
Abcam's 8-hydroxy 2 deoxyguanosine ELISA Kit (ab201734)
Typical standard curve

Abcam's 8-hydroxy 2 deoxyguanosine ELISA Kit (ab201734) Typical standard curve



Abcam's 8-hydroxy 2 deoxyguanosine ELISA Kit (ab201734)
Schematic

Abcam's 8-hydroxy 2 deoxyguanosine ELISA Kit
(ab201734) Schematic

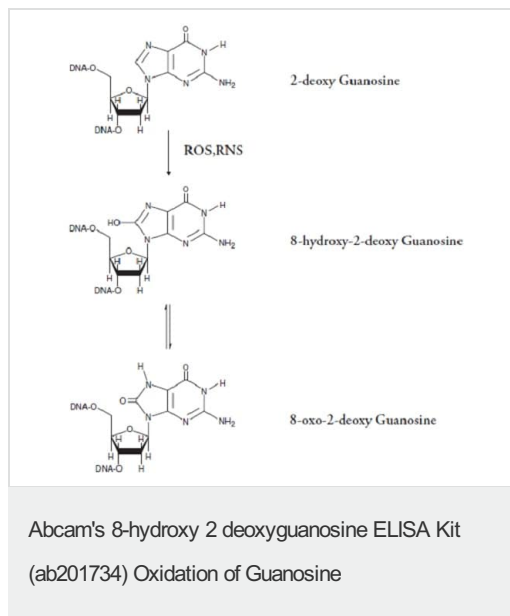


Abcam's 8-hydroxy 2 deoxyguanosine ELISA Kit (ab201734)
Recovery of 8-hydroxy-2-deoxy Guanosine from urine

Abcam's 8-hydroxy 2 deoxyguanosine ELISA Kit
(ab201734) Recovery of 8-hydroxy-2-deoxy
Guanosine from urine

Abcam's 8-hydroxy 2 deoxyguanosine ELISA Kit (ab201734)

Oxidation of Guanosine



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