abcam

Product datasheet

DNA Damage Assay Kit (AP sites, Colorimetric) ab211154

10 References 1 Image

Overview

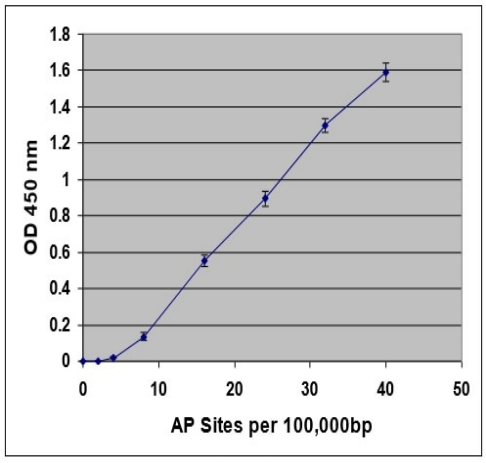
Product name	DNA Damage Assay Kit (AP sites, Colorimetric)
Detection method	Colorimetric
Sample type	DNA
Assay type	Quantitative
Product overview	DNA damage Assay Kit (AP sites, Colorimetric) (ab211154) provides a sensitive and specific method to monitor the formation of apurinic/apyrimidinic (AP) sites, one of the major types of DNA lesions. This DNA damage assay uses an APR (Aldehyde Reactive Probe) that reacts specifically with an aldehyde group on the open ring form of AP sites. AP sites are then tagged with biotin residues that can later be quantified using an streptavidin-enzyme conjugate that is easily detected by absorbance at OD450 nm. The kit has a detection sensitivity range of 4-40 AP sites per 1 x 10^5 bp.
Notes	Free radicals and other reactive species are constantly generated *in vivo* and cause oxidative damage to biomolecules, a process held in check only by the existence of multiple antioxidant and repair systems as well as the replacement of damaged lipids and proteins. DNA is probably the most biologically significant target of oxidative attack, and it is widely thought that continuous oxidative damage to DNA is a significant contributor to the age-related development of the major cancers, such as those of the colon, breast, rectum, and prostate. Among numerous types of oxidative DNA damage, apurinic/apyrimidinic (AP or abasic) site is one of the prevalent lesions of oxidative DNA damage. Abasic sites arise in DNA at a significant rate by spontaneous base loss as in depurination, by DNA oxidation, or by the action of DNA glycosylases. Estimates of the number of abasic sites generated per mammalian cell run as high as 50,000 to 200,000 per day. Unrepaired abasic sites inhibit topoisomerases, replication, and transcription and can be mutagenic because of bypass synthesis on nontemplated DNA.
Platform	Microplate reader

Properties

Storage instructions	Please refer to protocols.

Components	50 tests
10X Wash Buffer	1 x 30ml
ARP Solution	1 x 250µl
ARP-DNA Standard	1 x 400µl
DNA Binding Solution	1 x 6ml
DNA High-Binding Plate	1 unit
Glycogen Solution	1 x 100µl
Reduced DNA Standard	1 x 1ml
Sodium Acetate Solution	1 x 1ml
Stop Solution	1 x 12ml
Streptavidin-Enzyme Conjugate	1 x 20µl
Substrate Solution	1 x 12ml

Images



Typical ARP-DNA standard calibration curve.

DNA damage - AP sites - Assay Kit (Colorimetric) (ab211154)

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