

Product datasheet

Urine 5-methylcytosine Quantification Kit (Colorimetric) ab156903

2 Images

Overview

<b>Product name</b>	Urine 5-methylcytosine Quantification Kit (Colorimetric)
<b>Detection method</b>	Colorimetric
<b>Sample type</b>	Urine
<b>Assay type</b>	Quantitative
<b>Sensitivity</b>	0.03 ng/well
<b>Range</b>	0.05 ng - 1 ng
<b>Assay time</b>	4h 0m
<b>Species reactivity</b>	<b>Reacts with:</b> Human, a wide range of other species
<b>Product overview</b>	Abcam's Urine 5-methylcytosine Quantification Kit (Colorimetric) is a complete set of optimized buffers and reagents to colorimetrically quantify 5-mC in urine using an inhibitory competitive immunoassay method. It is suitable for detecting total urinary 5-methylcytosine levels, resulting from whole body turnover or degradation of methylated DNA/RNA in urine from humans and animals. The urine samples can be in fresh or frozen form.

**Notes**

Nucleobase 5-methylcytosine (5-mC), a modified form of cytosine converted by cytosine methyltransferases, is widespread both in DNA and different cellular RNAs. The biological importance of DNA 5-mC methylation as a major epigenetic modification in phenotype and gene expression has been widely recognized. Recent data strongly suggests that RNA 5-mC methylation is also involved in the regulation of various biological processes including tRNA stability/recognition and mRNA translation.

Urinary excretion of 5-mC including both 5-methyl-2-deoxycytidine and 5-methylcytidine is an indication of a whole body turnover or degradation of methylated DNA and RNA. The urinary 5-mC level can be altered by a change of the bodies' turnover of methylated DNA/RNA or alteration of cellular DNA/RNA methylation status. A number of studies have indicated that 5-mC excreted in urine has the potential to act as a cancer biomarker, with an increased level arising from disease onset and progression. For example, an elevated level of urinary 5-mC was observed in lung cancer, breast cancer, and leukemia patients with active disease states. It was also shown that urinary 5-mC excretion is effected by Alzheimer's disease or by radiation treatment. It is suggested that urinary 5-mC might be applicable as a biological marker for detecting some types of cancer and monitoring cancer progression after treatment with radiation or demethylation reagents.

**Platform** Microplate reader

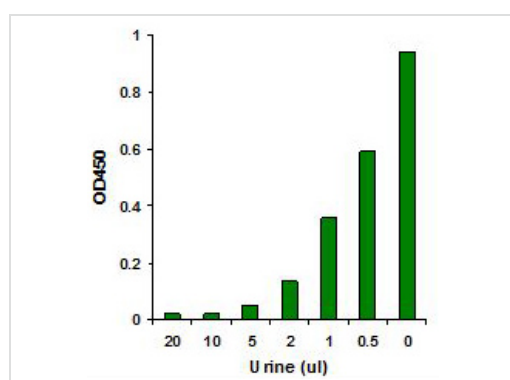
## Properties

### Storage instructions

Please refer to protocols.

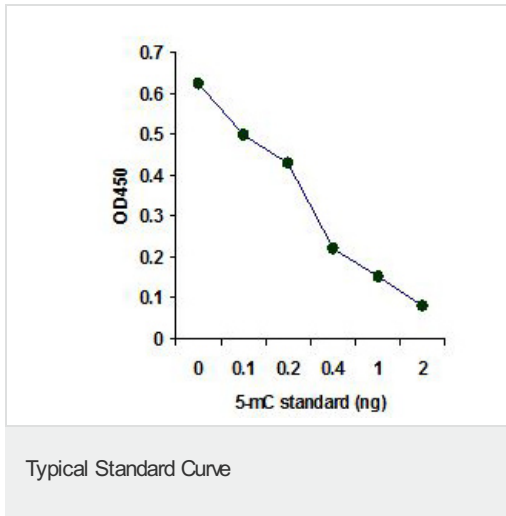
Components	48 tests	96 tests
1000X Capture Antibody	1 x 4 $\mu$ l	1 x 8 $\mu$ l
10X Wash Buffer	1 x 14ml	1 x 28ml
2000X Detection Antibody	1 x 4 $\mu$ l	1 x 8 $\mu$ l
320X 5-mC DNA Solution	1 x 15 $\mu$ l	1 x 30 $\mu$ l
5-mC Standard, 4 $\mu$ g/mL	1 x 10 $\mu$ l	1 x 20 $\mu$ l
Assay Plate	1 x 6 units	1 x 12 units
Binding Solution	1 x 5ml	1 x 10ml
Developer Solution	1 x 5ml	1 x 10ml
Enhancer Solution	1 x 4 $\mu$ l	1 x 8 $\mu$ l
Negative Control, 50 $\mu$ g/mL	1 x 10 $\mu$ l	1 x 20 $\mu$ l
Sample Preparation Plate	1 x 6 units	1 x 12 units
Stop Solution	1 x 5ml	1 x 10ml

## Images



Typical Results

5-mC level is quantified from different volumes of human urine using ab156903.



5-mC standard was added into the assay wells at different concentrations and then measured with ab156903.

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