

## Product datasheet

# Anti-5-Hydroxymethyl-2'-deoxyuridine antibody ab95259

### Overview

<b>Product name</b>	Anti-5-Hydroxymethyl-2'-deoxyuridine antibody
<b>Description</b>	Goat polyclonal to 5-Hydroxymethyl-2'-deoxyuridine
<b>Host species</b>	Goat
<b>Tested applications</b>	<b>Suitable for:</b> ELISA
<b>Species reactivity</b>	<b>Reacts with:</b> Human
<b>Immunogen</b>	5-Hydroxymethyl-2'-deoxyuridine conjugate
<b>Positive control</b>	Alzheimer brain homogenates

### Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid repeated freeze / thaw cycles.
<b>Storage buffer</b>	Preservative: 0.09% Sodium azide Constituent: Whole serum
<b>Purity</b>	Whole antiserum
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	IgG

### Applications

Our [Abpromise guarantee](#) covers the use of **ab95259** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ELISA		Use at an assay dependent concentration.

### Target

## Relevance

5-Hydroxymethyl-2'-deoxyuridine (5-HmdU) is formed from thymidine during the oxidation of DNA by ionizing radiation or reactive oxygen species (ROS) that are formed from inflammatory response. This causes genetic mutations, altered gene expression and chromosomal instability that have generally been implicated with aging, cancers and autoimmune diseases. Systemic oxidative stress levels, as evidenced by DNA damage products in the blood and urine, appear to be associated with a risk of various cancers, including that of the breast, lung and colorectal cancers. Cigarette smoke contains numerous chemical carcinogens and other compounds that generate reactive oxygen species that can damage DNA directly or indirectly via inflammatory processes. 5-HmdU is one of the major oxidized DNA bases that is significantly elevated in the white blood cells of women diagnosed with breast cancer, which may be a result of diminished DNA repair. Individuals with BRCA1 and BRCA2 mutations may be at increased risk for cancer due to deficiencies in the repair of DNA lesions caused by ROS. Additionally, antibody titers recognizing 5-HmdU have also been found to be significantly elevated in women with breast, color and rectal cancers. Therefore, oxidative DNA damage is therefore an attractive marker of disease risk as it takes into account not only the exposure to and production of oxidants, but also the cells' DNA repair ability.

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