

#### DESCRIPTION

|                                                                                                                                                                                                         |                                                                                                                |
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| <b>Species Reactivity</b>                                                                                                                                                                               | Human                                                                                                          |
| <b>Specificity</b>                                                                                                                                                                                      | Detects human Isocitrate Dehydrogenase 1/IDH1 in ELISAs and Western blots.                                     |
| <b>Source</b>                                                                                                                                                                                           | Monoclonal Mouse IgG <sub>1</sub> Clone # 843219                                                               |
| <b>Purification</b>                                                                                                                                                                                     | Protein A or G purified from hybridoma culture supernatant                                                     |
| <b>Immunogen</b>                                                                                                                                                                                        | <i>E. coli</i> -derived recombinant human Isocitrate Dehydrogenase 1/IDH1<br>Ser2-Leu414<br>Accession # O75874 |
| <b>Conjugate</b>                                                                                                                                                                                        | Alexa Fluor 488<br>Excitation Wavelength: 488 nm<br>Emission Wavelength: 515-545 nm                            |
| <b>Formulation</b>                                                                                                                                                                                      | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide                                                   |
| *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |                                                                                                                |

#### APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

|                             |                                                                        |
|-----------------------------|------------------------------------------------------------------------|
| <b>Knockout Validated</b>   | Optimal dilution of this antibody should be experimentally determined. |
| <b>Western Blot</b>         | Optimal dilution of this antibody should be experimentally determined. |
| <b>Immunocytochemistry</b>  | Optimal dilution of this antibody should be experimentally determined. |
| <b>Immunohistochemistry</b> | Optimal dilution of this antibody should be experimentally determined. |

#### PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

#### BACKGROUND

Isocitrate Dehydrogenase 1 (IDH1) catalyzes the oxidative decarboxylation of isocitrate to α-ketoglutarate. There are two subclasses in the IDH family, one of them utilizing NADP<sup>+</sup> as the electron acceptor and the other using NAD<sup>+</sup> (1). The protein encoded by this gene is the NADP<sup>+</sup>-dependent isocitrate dehydrogenase found in the cytoplasm and peroxisomes. In peroxisomes, IDH1 generates the NADPH required for intraperoxisomal reduction reactions. Mutations of Arg132 of human IDH1 result in a reduced ability of the enzyme to convert isocitrate to α-ketoglutarate, but the enzyme acquires the ability to generate 2-hydroxyglutarate (2HG) from α-ketoglutarate (2). Elevated levels of the metabolite 2HG are associated with a high risk of malignant brain tumors. Arg132 mutations of IDH1 are common in high-grade gliomas, but not in other types of tumors (3).

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