

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Isocitrate Dehydrogenase 1/IDH1 in ELISAs and Western blots.
Source	Monoclonal Mouse IgG ₁ Clone # 843219
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human Isocitrate Dehydrogenase 1/IDH1 Ser2-Leu414 Accession # O75874
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm
Formulation	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.

Knockout Validated	Optimal dilution of this antibody should be experimentally determined.
Western Blot	Optimal dilution of this antibody should be experimentally determined.
Immunocytochemistry	Optimal dilution of this antibody should be experimentally determined.
Immunohistochemistry	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	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⁺ as the electron acceptor and the other using NAD⁺ (1). The protein encoded by this gene is the NADP⁺-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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