# Human Dihydrolipoamide Dehydrogenase/DLD Alexa Fluor® 594-conjugated Antibody

Monoclonal Mouse $IgG_{2B}$ Clone # 1016619

Catalog Number: FAB8646T

100 µg

## DESCRIPTION

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| **Species Reactivity** | Human |
| **Specificity** | Detects human Dihydrolipoamide Dehydrogenase/DLD in direct ELISAs. |
| **Source** | Monoclonal Mouse $IgG_{2B}$ Clone # 1016619 |
| **Purification** | Protein A or G purified from hybridoma culture supernatant |
| **Immunogen** | *E. coli*-derived human Dihydrolipoamide Dehydrogenase/DLD<br>Ala36-Phe509<br>Accession # P09622 |
| **Conjugate** | Alexa Fluor 594<br>Excitation Wavelength: 590 nm<br>Emission Wavelength: 617 nm |
| **Formulation** | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*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.*

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| **Immunocytochemistry** | Optimal dilution of this antibody should be experimentally determined. |
| **Immunohistochemistry** | Optimal dilution of this antibody should be experimentally determined. |

## PREPARATION AND STORAGE

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| **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

Dihydrolipoamide dehydrogenase (DLD), also known as LADH, is an NAD-dependent oxidoreductase in the mitochondrial matrix (1). DLD serves as the E3 subunit of four mitochondrial enzyme complexes: pyruvate dehydrogenase, alpha-ketoglutarate dehydrogenase, branched chain alpha-ketotacid dehydrogenase, and the glycine cleavage system (2, 3). It is active as a 120 kDa dimer that catalyzes oxidation within these enzyme complexes. Several mutations of human DLD have been described, some of which contribute to the loss of respiratory function during oxidative stress (4, 5). DLD mutations located at the interface between dimer subunits can impair dimer formation (5, 6). The involvement of DLD in the regulation of lipid peroxidation and lactate metabolism is important for mouse hippocampal neuroblast proliferation and hamster sperm capacitation, respectively (7, 8). DLD polymorphisms in insects can increase their resistance to the pesticide phosphine gas, while they can increase the sensitivity to arsenite in the nematode *C. elegans* (9). Mature human DLD shares 95-96% amino acid (aa) sequence identity with hamster, mouse, and rat DLD. Alternative splicing generates additional human DLD isoforms that lack the N-terminal 99 aa or carry a deletion of aa 147-194.

## PRODUCT SPECIFIC NOTICES

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