

## DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects human Sirtuin 3/SIRT3 in ELISAs. In direct ELISAs, no cross-reactivity with recombinant human Sirtuin 2 is observed.                                                                                                                                                |
| <b>Source</b>             | Monoclonal Mouse IgG <sub>1</sub> Clone # 850911                                                                                                                                                                                                                            |
| <b>Purification</b>       | Protein A or G purified from hybridoma culture supernatant                                                                                                                                                                                                                  |
| <b>Immunogen</b>          | <i>E. coli</i> -derived recombinant human Sirtuin 3/SIRT3<br>Ser101-Lys399<br>Accession # Q9NTG7                                                                                                                                                                            |
| <b>Conjugate</b>          | Alexa Fluor 594<br>Excitation Wavelength: 590 nm<br>Emission Wavelength: 617 nm                                                                                                                                                                                             |
| <b>Formulation</b>        | 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.

**Western Blot** 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

Sirtuin 3 (SIRT3; SIR2-like protein 3) is a 28-30 kDa, NAD<sup>+</sup>-dependent class III member of the sirtuin protein family. It is widely expressed and found apparently in both the nucleus where it deacetylates histones, and in the mitochondrial matrix where it is involved in the regulation of both oxidative stress and the physiology associated with fasting or caloric restriction. Relative to the mitochondria, SIRT3 deacetylates multiple enzyme substrates including SOD2, IDH2, LCAD, OTC and HMGCs2, an action that results in enzyme activation. Human SIRT3 is 399 amino acids (aa) in length. It contains a mitochondrial targeting sequence within the first 100 aa, followed by a sirtuin-type deacetylase domain (aa 126-382) that contains an NAD binding segment (aa 145-165). SIRT3 is initially synthesized as a 42-44 kDa "precursor" in the cytosol. From here, it can translocate into mitochondria where it is cleaved between Arg99Arg100 to generate a 28-30 kDa short form. There is one potential alternative start site at Met143. Over aa 101-399, human and mouse SIRT3 share 84% aa sequence identity.

## PRODUCT SPECIFIC NOTICES

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