

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Sirtuin 3/SIRT3 in direct ELISAs and Western blots. In direct ELISAs, less than 5% cross-reactivity with recombinant human SIRT2 is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant human Sirtuin 3/SIRT3 Ser101-Lys399 Accession # Q9NTG7
Conjugate	Alexa Fluor 350 Excitation Wavelength: 346 nm Emission Wavelength: 442 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.

Western Blot 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

SIRT3 (SIR2-like protein 3) is a 28-30 kDa, NAD⁺-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). Although uncertainty exists relative to its intracellular location, it would appear that 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

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.