

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Sirtuin 1/SIRT1 in direct ELISAs and Western blots. In direct ELISAs, less than 1% 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 1/SIRT1 Ala2-Ser747 Accession # Q96EB6
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.

CyTOF-ready	Optimal dilution of this antibody should be experimentally determined.
Knockout Validated	Optimal dilution of this antibody should be experimentally determined.
Western Blot	Optimal dilution of this antibody should be experimentally determined.
Flow Cytometry	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

SIRT1 (SIR2-like protein 1; also NAD-dependent protein deacetylase sirtuin-1 and hSIRT2) is a class I member of the sirtuin family of enzymes. Although its predicted MW is 81 kDa, it runs anomalously at 110-120 kDa in SDS-PAGE. It is a widely expressed nuclear protein that participates in the deacetylation of multiple proteins, including p300, p53, LKB1 and histone H1. Functionally, this has the effect of promoting heterochromatin formation, cell survival and resistance to oxidative stress. Metabolically, SIRT1 induces insulin secretion, inhibits glycolysis and suppresses fatty acid synthesis. Human SIRT1 is 747 amino acids (aa) in length. It possesses two NLS's (aa 32-39 and 223-230), an NES (aa 138-145), and a sirtuin-type deacetylase domain (aa 241-495) that contains an NAD and Zn binding motif. There are at least 12 utilized Ser/Thr phosphorylation sites, plus two nitrosylated Cys and one acetylated Ala. There are also four potential isoform variants. One is 95 kDa in size and shows a deletion of aa 454-639, a second is 17 kDa in size and contains a 16 aa substitution for aa 149-747, and a third contains an alternative start site at Met296. SIRT1 is also known to undergo proteolysis by cathepsin B at Val533/Ser534, generating a fourth, C-terminally truncated 75 kDa isoform. Full-length SIRT1 is suggested to form trimers, while the 17 kDa isoform appears to form dimers. Over aa 2-747, human and mouse SIRT1 share 86% 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.