Human Sirtuin 1/SIRT1 Alexa Fluor® 594-conjugated Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF7714T
100 µg

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	*E. coli*-derived recombinant human Sirtuin 1/SIRT1 Ala2-Ser747 Accession # Q96EB6
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 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 hSIR2) 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 sertuin-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 Val533Ser534, 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

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