SIRT1 Activity Assay Kit (Fluorometric) ab156065

Overview

Product name: SIRT1 Activity Assay Kit (Fluorometric)
Detection method: Fluorescent
Sample type: Cell culture extracts, Tissue Extracts
Assay type: Enzyme activity
Assay time: 1h 00m
Species reactivity: Reacts with: Mouse, Rat, Human

Product overview:
SIRT1 Activity Assay Kit (Fluorometric) (ab156065) detects SIRT1 activity in lysates. Primarily, the SIRT1 Activity Assay Kit is designed for the rapid and sensitive evaluation of SIRT1 inhibitors or activators using crude SIRT1 fraction or purified SIRT1. Additionally, any cultured primary cell, cell line, or tissue homogenate can be assayed for SIRT1 activity with the SIRT1 Activity Assay Kit if the appropriate antibody directed against SIRT1 (Anti-SIRT1 antibody (ab7343)) is used for immunoprecipitation.

Abcam’s SIRT1 Activity Assay Kit (Fluorometric) has been shown to detect the activity of Sirtuins, at least SIRT1 in Human or animal cell lysates or in column fractions. The assay shows good linearity of sample response. The assay may be used to follow the purification of Sirtuins or may be used to detect the presence of Sirtuins in cell lysates.

Applications for this kit include:
1. Monitoring the purification of SIRT1.
2. Screening inhibitors or activators of SIRT1.
3. Detecting the effects of pharmacological agents on SIRT1.

Notes
Histone Deacetylases (HDACs) are a class of enzymes responsible for the deacetylation of lysine residues on the N-terminal part of the core histones (H2A, H2B, H3 and H4), allowing the histones to wrap the DNA more tightly.

HDAC proteins occur in four groups (class I, class IIa, class IIb, class III, class IV) based on function and DNA sequence similarity. Classes I, IIa and IIb are considered "classical" HDACs whose activities are inhibited by trichostatin A (TSA), whereas class III is a family of NAD+-dependent proteins (sirtuins) not affected by TSA. Class IV is considered an atypical class on its own, based solely on DNA sequence similarity to the others.

Platform: Microplate reader
C2C12 and L6 myoblasts were treated with 1 and 2 µM KL1333 for 1 h, respectively. SIRT1 activities in both cell lines were analyzed using a fluorescence-based assay.

A representative sample of 9 sets of cells from the 46 experimental sets was used for SIRT1 enzyme activity at day 21 in vehicle-control and NAM conditions only.

Time course of SIRT1-substrate deacetylation by recombinant SIRT1 in the presence of EX-527 (ab141506)
Time course of SIRT1-substrate deacetylation by recombinant SIRT1

Dose dependency curve of recombinant SIRT1 activity

Measurement of 293T cell endogenous SIRT1 activity in a sample previously immunoprecipitated with an anti-SIRT1 antibody.

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