CREATIVE BIOMART®
Assay Kit

SIRT1 Direct Fluorescent Screening Assay Kit

Product Information

Cat.No. Kit-2024

Size

96 wells

Description

Sirtuins (SIRTs) represent a distinct class of trichostatin A-insensitive lysyl-deacetylases (class III HDACs). Human SIRT1 is the homolog of yeast Silent information regulator 2 (Sir2) and has been shown to regulate the activity of the p53 tumor suppressor and inhibit apoptosis. Small molecule activators of SIRT1, such as resveratrol, extend lifespan in yeast and C. elegans in a manner that resembles caloric restriction. However, this activation of SIRT1 is under much debate. It was determined that the in vitro activation of SIRT1 and Sir2 by resveratrol was a substrate-specific event (i.e., the binding of resveratrol to SIRT1 promoted a conformational change that better accommodated the attached coumarin group in the peptide substrate). Additional research needs to be done to further elucidate the mechanism behind SIRT1 activation, as well as, to establish its role in aging, cancer, and neurodegenerative disease. The SIRT1 Direct Fluorescent Screening Assay Kit provides a convenient fluorescence-based method for screening SIRT1 inhibitors or activators. The procedure requires only two easy steps, both performed in the same microplate. In the first step, the substrate, which comprises the p53 sequence Arg-His-Lys-Lys(e-acetyl)-AMC, is incubated with human recombinant SIRT1 along with its cosubstrate NAD+. Deacetylation sensitizes the substrate such that treatment with the developer in the second step releases a fluorescent product. The fluorophore can be easily analyzed using an excitation wavelength of 350-360 nm and an emission wavelength of 450-465 nm.

Storage

-80°C

Kit Components

SIRT1 Direct Assay Buffer (10X): 1 vial SIRT1 (human recombinant): 2 vials SIRT1 Direct Peptide: 2 vials SIRT1 Direct NAD^+: 1 vial SIRT1 Direct Nicotinamide: 1 vial SIRT1 Direct Developer: 1 vial SIRT1 Direct Fluorophore: 1 vial Half Volume 96-Well Plate (white): 1 plate 96-Well Cover Sheet: 1 cover

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