Sirtuin Activity Fluorometric Assay Kit

Cat. No. Kit-0789 **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Purified recombinant protein Cell and tissue lysate Nuclear Extract Mitochondria Immunoprecipitated samples
Description	Sirtuins are a class of proteins that possess either histone deacetylase or mono-ribosyltransferase activity. Sirtuins are localized in the cytoplasm, nucleus, nucleolus as well as mitochondria. They are associated with aging, cellular protection, sugar metabolism and cell cycle regulation. Unlike other known protein deacetylases, which simply hydrolyze acetyl-lysine residues, the sirtuin-mediated deacetylation reaction hydrolyzes acetyl-lysine and NAD. This hydrolysis yields the deacetylated substrate, O-acetyl-ADP-ribose and nicotinamide, itself an inhibitor of sirtuin activity. Studies suggest that the human sirtuins may function as intracellular regulatory proteins with mono-ADP-ribosyltransferase activity. In Sirtuin Activity Assay Kit, the acetylated p53-AFC substrate is deacetylated by Sirtuins in the presence of NAD+ to generate the deacetylated p53-AFC substrate, nicotinamide and O-Acetyl-ADP Ribose. Cleavage of the deacetylated p53-AFC substrate by the Developer releases the fluorescent group, which is detected fluorometrically at Ex/Em = 400/505 nm. HDAC's also deacetylate the acetylated p53-AFC substrate. Trichostatin A is added to the reaction to specifically inhibit HDAC's in samples. This kit provides a rapid, simple, sensitive, and reliable test to measure Sirtuin Activity in a variety of samples. The limit of quantification of the assay is 0.06 μl of recombinant human SIRT6.

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Applications	Detection of Sirtuin Activity in variety of samples
Usage	For Research Use Only! Not For Use in Humans.
Storage	-20°C
Size	100 assays
Kit Components	• Sirtuin Assay Buffer • Homogenization Buffer • 1M DTT • Substrate (in DMSO) • NAD • Positive Control • Trichostatin A (in DMSO) • Developer • AFC Standard (in DMSO) (1 mM)
Detection method	Fluorescence (Ex/Em = 400/505 nm)
Compatible Sample Types	• Purified recombinant protein • Cell and tissue lysate • Nuclear Extract • Mitochondria • Immunoprecipitated samples

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