

## Active Recombinant Human Sirtuin 2 (SIRT2)

**CATALOG #:**

7632-20	20 µg
7632-100	100 µg
7632-1000	1 mg

**SOURCE:** *E. coli*

**PURITY:** ≥ 90 % by SDS-PAGE

**SPECIFIC ACTIVITY:** ≥ 80 µU/mg

**MOLECULAR WEIGHT:** 43 kDa

**FORM:** rh-Sirtuin 2 (SIRT2) with the native N-terminus is supplied as a liquid of ~2 mg/ml in 25 mM Tris, pH 7.5, 100 mM NaCl, 2.7 mM KCl, 3 mM MgCl<sub>2</sub>, 10 % glycerol.

**STORAGE CONDITIONS:** Stable for 1 year at -70°C. For long term storage, it is recommended to add a carrier protein (0.1% BSA). Avoid multiple freeze/thaw cycles

**BACKGROUND DESCRIPTION:** Human sirtuins function as intracellular regulatory proteins. Sirtuin 2 is a member of the class III histone deacetylases (HDACs) and has been implicated in many cellular processes that include histone deacetylation, gene silencing, chromosomal stability, and aging. The enzymatic activity of class III HDACs is nicotinamide adenine dinucleotide (0.1mM NAD<sup>+</sup>) dependent and insensitive to HDAC inhibitor trichostatin A.

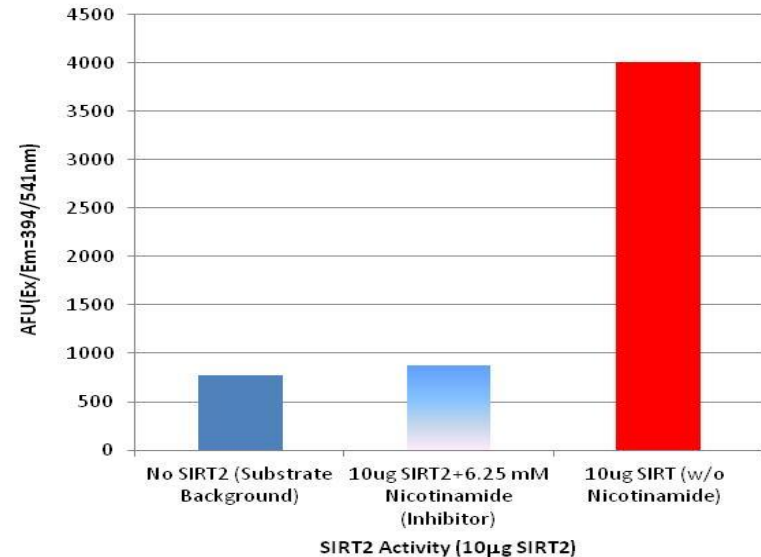
**APPLICATION AND USAGE:** Active SIRT2 is useful in studying enzyme regulation, determining target substrates, screening deacetylase inhibitors, or as a positive control in SIRT2 activity assays. We recommend using 5-10 µg protein per assay for analyzing SIRT2 activity.

**ACTIVITY:** Activity of SIRT2 was tested using the substrate Arg-His-Lys-Lys(Ac)-AFC, which is a fluorogenic, acetylated peptide based on residues 379-382 of p53.

**UNIT DEFINITION:** One unit of the recombinant SIRT2 is defined as the amount of enzyme that deacetylates 1.0 µmol of substrate Arg-His-Lys-Lys(Ac)-AFC per minute at 37°C in a reaction solution using Sirtuin 2 fluorometric assay kit (K324).



**SDS-PAGE (4-20%) of Human SIRT2:** 3 µg of human SIRT2 loaded under reducing conditions and stained with Coomassie Blue. The protein has a MW of ~ 43 kDa.



**SIRT2 Activity Assay.** The activity of SIRT2 was determined using the Arg-His-Lys-Lys(Ac)-AFC substrate followed by treatment with Developer from the HDAC3 Activity assay Kit (Cat # K343-100). Quantification was done from an AFC standard curve. (Nicotinamide is an inhibitor of SIRT2. Nicotinamide at 6.25mM completely inhibited SIRT2 activity)

### RELATED PRODUCTS:

- SIRT4 (GST-tagged), Human recombinant (**Cat. No. 7673-20, -100**)
- SIRT5 (GST-tagged), Human recombinant (**Cat. No. 7674-20, -100**)
- Sirtuin 6, human recombinant (**Cat. No. 7578-10**)
- SIRT 1 Inhibitor, EX-527 (**Cat. No. 1652-10**)
- SIRT 1 Inhibitor Screening Assay Kit (**Cat. No. K322-100**)
- SIRT 2 Inhibitor, AGK2 (**Cat. No. 1651-10**)
- SIRT 2 Inhibitor, AK-7 (**Cat. No. 1857-5, -25**)
- SIRT3 Antibody (**Cat. No. 3223-100**)
- SIRT4 Antibody (**Cat. No. 3224-100**)
- SIRT5 Antibody (**Cat. No. 3225-100**)
- Sirtinol (**Cat. No. 2062-1, -5**)

**FOR RESEARCH USE ONLY! Not to be used in humans.**