

Product Information



SIRT1 (human recombinant)

Item No. 10011190 • Lot No. XXXX

Synonyms: NAD-dependent Deacetylase 1, Silent Information Regulator 2, SIR2L1, SIR2-like Protein 1, Sirtuin 1

Source: Recombinant N-terminal GST-tagged SIRT1 amino acids 193-747 purified from *E. coli*

M_r: 89.2 kDa

Purity: ≥60%

Stability: ≥9 months at -80°C

Supplied in: 50 mM sodium phosphate, pH 7.2, containing 100 mM sodium chloride and 20% glycerol

Protein Concentration: *lot specific* mg/ml

Activity: *lot specific* U/ml

Specific Activity: *lot specific* pmol/min/mg. One unit is defined as the amount of enzyme required to produce 1 pmole of 7-amino-4-methylcoumarin per minute at 25°C in 50 mM Tris-HCl, pH 8.0, 137 mM NaCl, 2.7 mM KCl, 1 mM MgCl₂, containing 125 μM p53 amino acids 379-382 (Arg-His-Lys-Lys (ε-acetyl)-AMC), and 6 mM NAD⁺

The sirtuins represent a distinct class of trichostatin A-insensitive lysyl-deacetylases (class III HDACs) and have been shown to catalyze a reaction that couples lysine deacetylation to the formation of nicotinamide and O-acetyl-ADP-ribose from NAD⁺ and the abstracted acetyl group.¹⁻³ There are seven human sirtuins, which have been designated SIRT1-7.⁴ SIRT1, which is located in the nucleus, is the human sirtuin with the greatest homology to yeast Sir2 (Silent information regulator 2) and has been shown to regulate the activity of the p53 tumor suppressor and inhibit apoptosis.⁵⁻⁷ These results have significant implications regarding an important role of SIRT1 in modulating the sensitivity of cells in the p53-dependent apoptotic response and the possible effect in cancer therapy. Since the growth suppressive function of p53 is strongly enhanced by DNA damaging reagents, it is expected that inhibitors of SIRT1 may be effective anti-cancer drugs.⁸

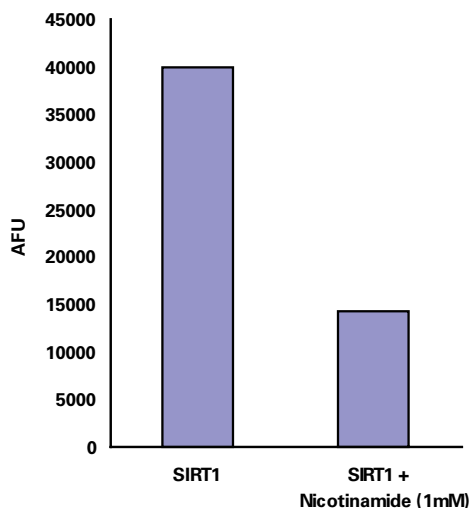
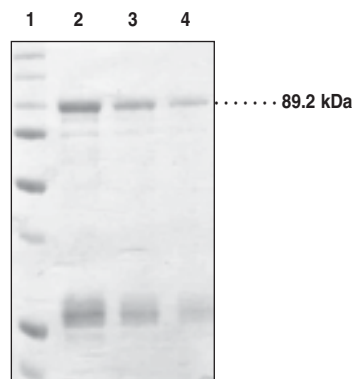


Figure 1: Inhibition of SIRT1 activity by nicotinamide



Lane 1: MW Markers
Lane 2: SIRT1 (5 μg)
Lane 3: SIRT1 (2.5 μg)
Lane 4: SIRT1 (1.25 μg)

Figure 2: Coomassie-stained gel of purified SIRT1.

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

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References

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