



## Human NAD-dependent protein deacetylase sirtuin-1 (SIRT1) ELISA kit (0.31-20 ng/mL)

<b>Cat. No.:</b>	0126WXX-1804
<b>Assay Type:</b>	Quantitative sandwich ELISA
<b>Target Species:</b>	Human
<b>Assay Target:</b>	SIRT1
<b>Size:</b>	24T; 48T; 96T

This product is for research use only and is not intended for diagnostic use.

### Product Overview

#### Description

Human NAD-dependent protein deacetylase sirtuin-1 (SIRT1) ELISA kit (0.31-20 ng/mL) is an ELISA-based *in vitro* research tool designed specifically for the quantitative detection of SIRT1 in human samples with a range of 0.31-20 ng/mL and a minimum detectable dose (sensitivity) of 0.19 ng/mL. The kit is highly sensitive and easy to use.

#### Assay Principle

This ELISA kit operates on the sandwich-ELISA principle. The provided micro ELISA plate is pre-coated with an antibody specific to human SIRT1. Standards or samples are added to the wells to bind with the immobilized antibody. Subsequently, a biotinylated detection antibody specific for human SIRT1 and an avidin-HRP conjugate are added successively and incubated. Unbound components are removed *via* washing. A substrate solution is then added; only wells containing the human SIRT1 sandwich complex will develop a blue color. The reaction is terminated by a stop solution, turning the color yellow. The OD is measured at  $450 \text{ nm} \pm 2 \text{ nm}$ , with the OD value being directly proportional to the human SIRT1 concentration.

**Background**

Sirtuin 1 (SIRT1) is an NAD<sup>+</sup>-dependent protein deacetylase that links cellular energy status to transcriptional regulation, modulating processes such as metabolism, autophagy, apoptosis, and cell cycle control. SIRT1 deacetylates a variety of transcription factors and coregulators, influencing gene expression in liver, muscle, and adipose tissue, and participates in chromatin silencing through energy-dependent complexes. By sensing NAD<sup>+</sup>/NADH ratios, SIRT1 integrates metabolic signals and contributes to the regulation of glucose and lipid homeostasis, as well as cellular responses to stress and nutrient availability.

**Synonyms**

SIR2L1; Silent mating type information regulation 2 homolog 1; SIR2-like protein 1; SirtT1 75 kDa fragment; Sirtuin 1

**Formula Weight**

61,066 Da

**Applications**

Human NAD-dependent protein deacetylase sirtuin-1 (SIRT1) ELISA kit (0.31-20 ng/mL) is used to quantify SIRT1 in serum, plasma, and other biological fluids of humans, providing data to support research in a wide range of areas, including endocrinology, obesity, and others.

**Research Area**

Endocrinology; Obesity

## Specification

<b>Sample Type</b>	Serum; Plasma; Other biological fluids
<b>Detection Range</b>	0.31-20 ng/mL
<b>Sensitivity</b>	0.19 ng/mL
<b>Precision (Intra-assay)</b>	CV<10%
<b>Precision (Inter-assay)</b>	CV<12%
<b>Cross-reactivity</b>	No significant cross-reactivity or interference was observed.
<b>Recovery</b>	86-106%
<b>Storage</b>	Store at 2-8°C.