Data Sheet (Cat.No.TMPY-06954)

TargetMol

SIRT5 Protein, Human, Recombinant (His)

General Information

Synonyms:	sirtuin 5;SIR2L5
Protein Construction:	A DNA sequence encoding the Human SIRT5 (NP_036373.1) (Ser37-Ser310) was expressed, with a polyhistidine tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	E. coli
Accession:	NP_036373.1
Molecular Weight:	30.78 kDa (predicted)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	≥ 95 % as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 50 mM Tris, 10% Glycerol, pH 9. 0.Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

The sirtuin SIRT5 resides primarily in the mitochondrial matrix and catalyzes the removal of negatively charged lysine acyl modifications; succinyl, malonyl, and glutaryl groups SIRT5 as a significant regulator of cellular homeostasis, in a context- and cell-type specific manner, as has been observed previously for other sirtuin family members. SIRT5 regulates protein substrates involved in glycolysis, the TCA cycle, fatty acid oxidation, electron transport chain, ketone body formation, nitrogenous waste management, and ROS detoxification, among other

processes. SIRT5 plays pivotal roles in cardiac physiology and stress responses and is involved in the regulation of numerous aspects of myocardial energy metabolism. SIRT5 is implicated in neoplasia, as both a tumor promoter and suppressor in a context-specific manner, and may serve a protective function in the setting of neurodegenerative disorders. The SIRT5 downregulation is associated with increased succinylation and activity of ACOX1 and oxidative DNA damage response in hepatocellular carcinoma (HCC).

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