

## Small Molecules

EX527

Epigenetic modifier; Inhibits SIRT1 histone deacetylase

Catalog # 73652  
73654

1 mg  
10 mg



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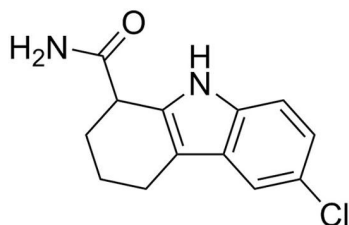
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## Product Description

EX527 is a cell-permeable, selective inhibitor of mammalian sirtuin 1 (SIRT1;  $IC_{50} = 98$  nM) over SIRT2 and SIRT3 and has no effect on other histone deacetylases (HDACs; Nayagam et al.). SIRT1 is a nicotinamide adenine dinucleotide (NAD)-dependent deacetylase with roles in energy metabolism and inflammation. Studies have shown that EX527 inhibits sirtuins by forming a trimeric sirtuin complex with an NAD<sup>+</sup>-derived coproduct (Gertz et al.).

Molecular Name:	EX527
Alternative Names:	Selisistat
CAS Number:	49843-98-3
Chemical Formula:	C <sub>13</sub> H <sub>13</sub> ClN <sub>2</sub> O
Molecular Weight:	248.7 g/mol
Purity:	≥ 98%
Chemical Name:	6-chloro-2,3,4,9-tetrahydro-1H-carbazole-1-carboxamide
Structure:	



## Properties

Physical Appearance:	A crystalline solid
Storage:	Product stable at -20°C as supplied. Protect product from prolonged exposure to light. For long-term storage store with a desiccant. Stable as supplied for 12 months from date of receipt.
Solubility:	· DMSO ≤ 80 mM · Ethanol ≤ 20 mM For example, to prepare a 10 mM stock solution in DMSO, resuspend 1 mg in 402 µL of DMSO.

Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.

Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.

## Published Applications

### DIFFERENTIATION

- Increases the production of oligodendrocytes from differentiating neural stem cells and neural progenitor cells in vitro (Rafalski et al.).

### IMMUNOLOGY

- Restores the microvascular response during the hypoinflammatory phase in a mouse model of sepsis, and enhances the systemic innate immune response (Vachharajani et al.).

### DISEASE MODELING

- Delays cyst growth in kidneys of PKD1 knockout mouse models (Zhou et al.).

## References

Gertz M et al. (2013) Ex-527 inhibits Sirtuins by exploiting their unique NAD<sup>+</sup>-dependent deacetylation mechanism. *Proc Natl Acad Sci USA* 110(30): E2772–81.

Nayagam VM et al. (2006) SIRT1 modulating compounds from high-throughput screening as anti-inflammatory and insulin-sensitizing agents. *J Biomol Screen* 11(8): 959–67.

Rafalski VA et al. (2013) Expansion of oligodendrocyte progenitor cells following SIRT1 inactivation in the adult brain. *Nat Cell Biol* 15(6): 614–24.

Vachharajani VT et al. (2014) SIRT1 inhibition during the hypoinflammatory phenotype of sepsis enhances immunity and improves outcome. *J Leukoc Biol* 96(5): 785–96.

Zhou X et al. (2013) Sirtuin 1 inhibition delays cyst formation in autosomal-dominant polycystic kidney disease. *J Clin Invest* 123(7): 3084–98.

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**This product is hazardous. Please refer to the Safety Data Sheet (SDS).**

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