



Product Specification Sheet

Product Name: SRT1720

Catalog Number: C7781-2 (powder)
C7781-2s (10mM in DMSO)

Package Size: 2 mg

Technical information:

Chemical Formula: C₂₅H₂₃N₇OS

CAS #: 1001645-58-4

Molecular Weight: 469.56

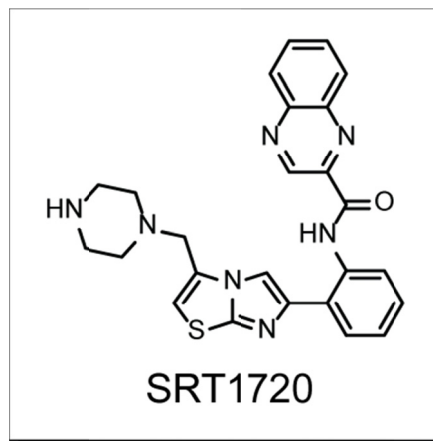
Purity: >98%

Formulation: White solid

Solubility: Soluble in DMSO up to 100 mM

Chemical Name: N-(2-(3-(piperazin-1-ylmethyl)imidazo[2,1-b]thiazol-6-yl)phenyl)quinoxaline-2-carboxamide

Storage: Store solid powder at 4°C desiccated;
Store DMSO solution at -20°C.



- Handling:**
- For C7781-2 (powder), add 426 µL of DMSO to make 10 mM solution.
 - For C7781-2s, before open the vial, centrifuge the vial at 500rpm x 1 min in a 50 mL conical tube to ensure full sample recovery.

Biological Activity: SRT1720 is a selective activator of human SIRT1 (0.16 µM and 781%) versus the closest sirtuin homologues, SIRT2 and SIRT3. It binds to the SIRT1 enzyme-peptide substrate complex at an allosteric site amino-terminal to the catalytic domain and lower the Michaelis constant for acetylated substrates. In animal studies SRT1720 was found to improve insulin sensitivity and lower plasma glucose levels in fat, muscle and liver tissue, and increased mitochondrial and metabolic function. The claim that SRT1720 is a SIRT1 activator has been questioned and further defended since 2007.

- Reference:**
1. Milne JC et al. Small molecule activators of SIRT1 as therapeutics for the treatment of type 2 diabetes. *Nature*. 2007;450(7170):712-6
 2. Michelle Pacholec et al. SRT1720, SRT2183, SRT1460, and Resveratrol Are Not Direct Activators of SIRT1. *J Biol Chem*. 2010; 285(30)
 3. Beher D et al. Resveratrol is not a direct activator of SIRT1 enzyme activity. *Chem Biol Drug Des* 2009. 74 (6): 619–24
 4. K. Zarse et al. Differential Effects of Resveratrol and SRT1720 on Lifespan of Adult *Caenorhabditis elegans*. *Hormone and Metabolic Research*; 2009.42 (12): 837–839
 5. Dai H et al. "SIRT1 activation by small molecules - kinetic and biophysical evidence for direct interaction of enzyme and activator. *J Biol Chem* 2010;285 (43): 32695–32703



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