

Resveratrol

Catalog No: tcsc1050



Available Sizes

Size: 200mg

Size: 500mg



Specifications

CAS No:

501-36-0

Formula:

$C_{14}H_{12}O_3$

Pathway:

NF-κB; Autophagy; Cell Cycle/DNA Damage; Epigenetics; Apoptosis; Anti-infection

Target:

IKK; Autophagy; Mitophagy; Sirtuin; Apoptosis; Bacterial; Fungal; Antibiotic; Keap1- Nrf2

Form:

White to off-white (Solid)

Purity / Grade:

99.70%

Solubility:

DMSO : 100 mg/mL (438.14 mM; Need ultrasonic)

Storage Instruction:

Powder: -20°C for 3 years; 4°C for 2 years In solvent : -80°C for 6 months ; -20°C for 1 month

Alternative Names:

SRT 501;trans-Resveratrol;1,3-Benzenediol, 5-[(1E)-2-(4-hydroxyphenyl)ethenyl]-

Observed Molecular Weight:

228.24

References

[1]. Pirola L, et al. Resveratrol: one molecule, many targets. IUBMB Life. 2008 May;60(5):323-32. [2]. Lu R, et al. Resveratrol, a natural product derived from grape, exhibits antiestrogenic activity and inhibits the growth of human breast cancer cells. J Cell Physiol. 1999 Jun;179(3):297-304. [3]. Lee MH, et al. Resveratrol suppresses growth of human ovarian cancer cells in culture and in a murine xenograft model: eukaryotic elongation factor 1A2 as a potential target. Cancer Res. 2009 Sep 15;69(18):7449-58. [4]. Du LL, et al. Activation of sirtuin 1 attenuates cerebral ventricular streptozotocin-induced tau hyperphosphorylation and cognitive injuries in rat hippocampi. Age (Dordr). 2014 Apr;36(2):613-23. [5]. Smutny T, et al. Resveratrol as an inhibitor of pregnane X receptor (PXR): another lesson in PXR antagonism. J Pharmacol Sci. 2014;126(2):177-8. [6]. Eun Nim Kim, et al. Resveratrol, an Nrf2 activator, ameliorates aging-related progressive renal injury. Aging (Albany NY). 2018 Jan; 10(1): 83-99. [7]. Huige Li, et al. Resveratrol and Vascular Function. Int J Mol Sci. 2019 Apr 30;20(9):2155.

Product Description

Resveratrol (SRT 501), a natural polyphenol that possesses anti-oxidant, anti-inflammatory, cardioprotective, and anti-cancer properties. It has a wide spectrum of targets including **mTOR, JAK, β -amyloid**.

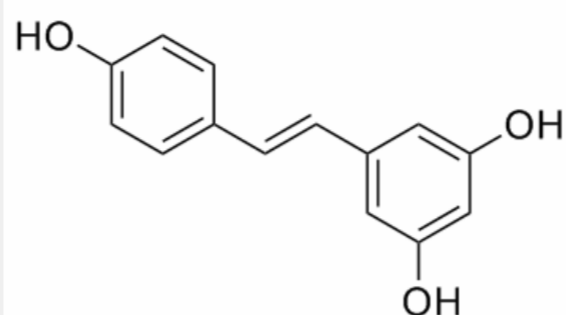
IC50 & Target: IC50: 0.8 μ M (Adenylyl cyclase), 1 μ M (IKK β), 3.3 and 5 μ M (DNA polymerase α and δ)^[1]

In Vitro: Resveratrol is one of the numerous polyphenolic compounds found in several vegetal sources. In the vast majority of cases, Resveratrol displays inhibitory/activatory effects in the micromolar range, which is potentially attainable pharmacologically, although targets with affinities in the nanomolar range have also been reported. Resveratrol also is a sirtuin activator^[1]. MCF-7 cells are plated in DME-F12 medium supplemented with 5% FBS in the presence of increasing concentrations of Resveratrol. Control cells are treated with the same volume of vehicle only (0.1% ethanol). Resveratrol inhibits the growth of MCF-7 cells in a dose-dependent fashion. Addition of 10 μ M Resveratrol results in an 82% inhibition of MCF-7 cell growth after 6 days while at 1 μ M, only a 10% inhibition is observed. The cells treated with 10 μ M Resveratrol have a doubling time of 60 hr whereas control cells doubled every 30 hr. Trypan blue exclusion assay shows that at concentrations of 10 μ M or lower, Resveratrol does not affect cell viability (90% viable cells) whereas at 100 μ M, only 50% of the cells are viable after 6 days of Resveratrol treatment. Moreover, MCF-7 cells do not undergo apoptosis after incubation with Resveratrol at concentration of 10 μ M as determined by ApoAlert Annexin V Apoptosis kit^[2].

In Vivo: The average tumor volume is reduced by treatment with Resveratrol at a dose of 50 mg/kg body weight (195.5 ± 124.8 mm³; P3; P3). There is a good correlation between the tumor volume and the tumor mass^[3].

Resveratrol increases the production of nitric oxide (NO) in endothelial cells by upregulating the expression of endothelial

NO synthase (eNOS), stimulating eNOS enzymatic activity, and preventing eNOS uncoupling^[7].



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!