

# Acetazolamide

## Catalog No: tcsc3568



### Available Sizes

**Size:** 1g

**Size:** 5g



### Specifications

**CAS No:**

59-66-5

**Formula:**

$C_4H_6N_4O_3S_2$

**Pathway:**

Metabolic Enzyme/Protease;Autophagy

**Target:**

Carbonic Anhydrase;Autophagy

**Purity / Grade:**

>98%

**Solubility:**

DMSO :  $\geq 41$  mg/mL (184.48 mM)

**Observed Molecular Weight:**

222.25

## Product Description

Acetazolamide is a **carbonic anhydrase (CA) IX** inhibitor with an **IC<sub>50</sub>** of 30 nM for **hCA IX**<sup>[1]</sup>. Diuretic effects<sup>[4]</sup>.

IC50 & Target: IC50: 30 nM (hCA IX), 130 nM (hCA II)<sup>[1]</sup>

**In Vitro:** Acetazolamide also inhibits hCA II with an IC<sub>50</sub> of 130 nM<sup>[1]</sup>.

Acetazolamide (Ace) is a small heteroaromatic sulfonamide that binds to various carbonic anhydrases with high affinity, acting as a carbonic anhydrase (CA) inhibitor<sup>[2]</sup>.

Compared with the control group, the high Acetazolamide concentration (AceH, 50 nM), Cisplatin (Cis; 1 µg/mL) and Cis combined with the low Acetazolamide concentration (AceL, 10 nM) treatments significantly reduces viability of Hep-2 cells<sup>[2]</sup>.

Treatment with the Acetazolamide/Cis combination significantly increases the expression levels of P53, as both AceL+Cis and AceH+Cis treatments result in significantly increased P53 protein expression levels compared with the control group. The Ace/Cis combination treatment significantly reduces the bcl-2/bax expression ratio, and increases the expression of caspase-3 protein, compared with the control group. AceL, AceH, Cis and AceL+Cis treatments significantly reduce the bcl-2/bax ratio compared with the control group<sup>[2]</sup>.

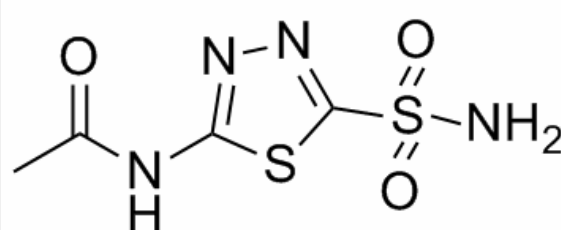
Combined Ace and Cis treatment effectively promotes apoptosis in Hep-2 cells<sup>[2]</sup>.

Combined treatment with Ace/Cis markedly decreases the expression of AQP1 mRNA in Hep-2 cells. Both AceH and AceL+Cis treatments decrease the expression of aquaporin-1 (AQP1) mRNA in Hep-2 cells compared with the control group<sup>[2]</sup>.

***In Vivo:*** Acetazolamide (40 mg/kg) significantly potentiates the inhibitory effect of MS-275 on tumorigenesis in neuroblastoma (NB) SH-SY5Y xenografts<sup>[3]</sup>.

Acetazolamide (40 mg/kg) and/or MS-275 treatment reduce expression of HIF1-α and CAIX in NB SH-SY5Y xenograft<sup>[3]</sup>.

Acetazolamide (40 mg/kg), MS-275 and Acetazolamide+MS-275 reduce expression of mitotic and proliferative markers in NB SH-SY5Y xenografts<sup>[3]</sup>.



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