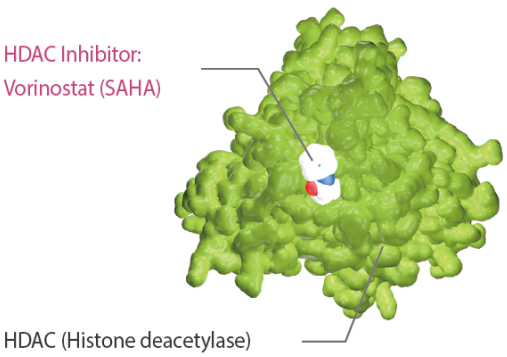
Aldehyde Dehydrogenase (ALDH)



Aldehyde dehydrogenase 1 (ALDH1), which is a putative marker of breast cancer stem cells (CSCs), in triple negative breast cancer (TNBC) tissues.

Mitochondrial aldehyde dehydrogenase (ALDH2) is a member of the 19-strong human aldehyde dehydrogenase family of $NADP^+$ -dependent enzymes.

ALDH2, a mitochondrial enzyme responsible for metabolizing the major lipid peroxidation product, protects against acute ischemia/reperfusion injury and chronic heart failure. Activation of ALDH2, the main enzyme that catalyzes 4-HNE metabolism, is sufficient to protect the heart against acute ischemia-reperfusion injury.

ALDH2 is a key detoxifying enzyme. ALDH2 is most commonly associated with its role in ethanol metabolism, catalyzing the oxidation of ethanol-derived acetaldehyde to acetate.

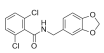
Aldehyde Dehydrogenase (ALDH) Inhibitors & Modulators

Alda-1

Cat. No.: HY-18936

Bioactivity: Alda-1 is a potent **ALDH2** agonist, which activates wild-type ALDH2 and restores near wild-type activity to ALDH2*2.

Purity: 99.81%
Clinical Data: No Development Reported
Size: 10mM x 1mL in DMSO, 5 mg, 10 mg, 50 mg, 100 mg



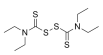
Disulfiram

(Tetraethylthiuram disulfide; TETD)

Cat. No.: HY-B0240

Bioactivity: Disulfiram is a specific inhibitor of **aldehyde-dehydrogenase (ALDH1)**, used for the treatment of chronic alcoholism by producing an acute sensitivity to alcohol.

Purity: 98.67%
Clinical Data: Launched
Size: 10mM x 1mL in DMSO, 1 g, 5 g

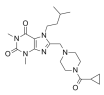


NCT-501

Cat. No.: HY-18768

Bioactivity: NCT-501 is a potent and selective theophylline-based inhibitor of aldehyde dehydrogenase 1A1 (ALDH1A1), inhibits hALDH1A1 with IC50 of 40 nM, typically shows better selectivity over other ALDH isozymes and other dehydrogenases (hALDH1B1, hALDH3A1, and hALDH2, IC50 >57 μM). IC50 value: 40 nM...

Purity: 99.75%
Clinical Data: No Development Reported
Size: 10mM x 1mL in DMSO, 5 mg, 10 mg, 50 mg, 100 mg

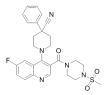


NCT-505

Cat. No.: HY-112277

Bioactivity: NCT-505 is a potent and selective **aldehyde dehydrogenase (ALDH1A1)** inhibitor, with an IC_{50} of 7 nM, and weakly inhibits hALDH1A2, hALDH1A3, hALDH2, hALDH3A1 (IC_{50}s, >57, 22.8, 20.1, >57 μM).

Purity: >98%
Clinical Data: No Development Reported
Size: 500 mg, 250 mg

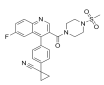


NCT-506

Cat. No.: HY-112278

Bioactivity: NCT-506 is an orally bioavailable aldehyde dehydrogenase 1A1 (**ALDH1A1**) inhibitors with an IC_{50} of 7 nM [1].

Purity: >98%
Clinical Data: No Development Reported
Size:



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