

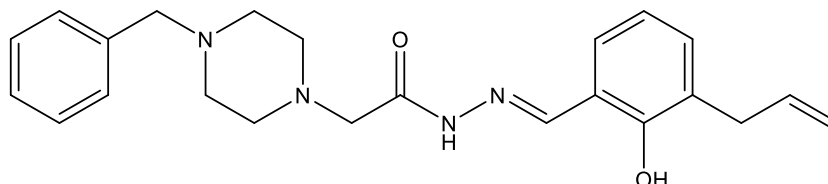
Catalog # 10-2979

PAC-1

CAS# 315183-21-2

4-(Phenylmethyl)-1-piperazineacetic acid [[2-hydroxy-3-(2-propenyl)phenyl]-methylene]hydrazide

Lot # X108753



PAC-1 is a procaspase-activating compound, directly activating procaspase-3, producing caspase-3, $EC_{50}=0.22 \mu\text{M}$.¹ It is less potent at activating procaspase-7, $EC_{50}=4.5 \mu\text{M}$. It induces apoptosis in a variety of cancer cell lines. The mechanism of activation involves sequestering inhibitory zinc ions thus allowing procaspase-3 to autoactivate.² Sensitizes cancer cells to various chemotherapeutic agents.³

- 1) Putt *et al.* (2006), *Small-molecule activation of procaspase-3 to caspase-3 as a personalized anticancer strategy*; Nat. Chem. Biol., **2** 543
- 2) Peterson *et al.* (2009), *PAC-1 activates procaspase-3 in vitro through relief of zinc-mediated inhibition*; J. Mol. Biol. **388** 144
- 3) Bolham *et al.* (2016), *Small-Molecule Procaspase-3 Activation Sensitizes Cancer to Treatment with diverse Chemotherapeutics*; ACS Cent. Sci. **2** 545

PHYSICAL DATA

Molecular Weight: 392.49
Molecular Formula: $\text{C}_{23}\text{H}_{28}\text{N}_4\text{O}_2$
Purity: >98% by HPLC
NMR: (Conforms)
Solubility: DMSO (up to 35 mg/ml), Ethanol (up to 15 mg/ml)
Physical Description: Off-white solid
Storage and Stability: Store as supplied at -20°C for up to 1 year from the date of purchase. Solutions in DMSO or ethanol may be stored at -80°C under an inert atmosphere for up to 2 months.

Materials provided by Focus Biomolecules are for laboratory research use only and are not intended for human or veterinary applications.