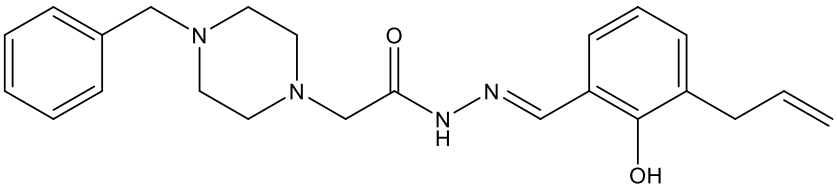
Catalog # 10-2979

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 μM.[1] It is less potent at activating procaspase-7, EC_{50}=4.5 μM. 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:	$C_{23}H_{28}N_4O_2$
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.

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