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DATASHEET

PAC 1

Product overview

Name	PAC 1
Cat No	HB1291
Biological action	Activator
Purity	>98%
Description	Procaspase-activating compound

Biological Data

Biological description	Procaspase-activating compound. Chelates inhibitory zinc ions and activates procaspase-3 to caspase-3 (EC_{50} = 0.22 µM). Activates procaspase-7 (EC_{50} = 4.5 µM). No effect at low pH as procaspase autoactivates. Causes Ero1α-dependent calcium leakage from the endoplasmic reticulum to mitochondria. Shows apoptotic and anti-cancer actions.

Solubility & Handling

Storage instructions	+4°C
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.

Chemical Data

Chemical name	4-(Phenylmethyl)-1-piperazineacetic acid [[2-hydroxy-3-(2-propenyl)phenyl]methylene]hydrazide
Molecular Weight	392.5
Chemical structure	
Molecular Formula	$C_{23}H_{28}N_4O_2$
CAS Number	315183-21-2
PubChem identifier	9675990
SMILES	O=C(N/N=C/C3=CC=CC(CC=C)=C3O)CN(CC2)CCN2CC1=CC=CC=C1
InChiKey	YQNRVGJCPCNMKT-LFVJCYFKSA-N

References

Procaspase-3 activation as an anti-cancer strategy: structure-activity relationship of procaspase-activating compound 1 (PAC-1) and its cellular co-localization with caspase-3.

Peterson QP *et al* (2009) J Med Chem 52(18)
PubMedID 19708658

Small-molecule activation of procaspase-3 to caspase-3 as a personalized anticancer strategy.

Putt KS *et al* (2006) Nat Chem Biol 2(10)
PubMedID 16936720

ERO1α-dependent endoplasmic reticulum-mitochondrial calcium flux contributes to ER stress and mitochondrial

permeabilization by procaspase-activating compound-1 (PAC-1).

Seervi M *et al* (2013) Cell Death Dis 4

PubMedID 24357799