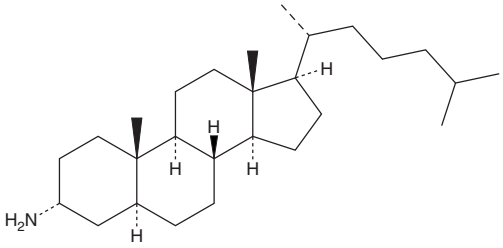
PRODUCT INFORMATION

3α-Aminocholestane

Item No. 27885

CAS Registry No.: 2206-20-4
Formal Name: (3α,5α)-cholestan-3-amine
Synonym: 3AC
MF: $C_{27}H_{49}N$
FW: 387.7
Purity: ≥95%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

3α-Aminocholestane is supplied as a solid. A stock solution may be made by dissolving the 3α-aminocholestane in the solvent of choice, which should be purged with an inert gas. 3α-Aminocholestane is soluble in the organic solvent chloroform at a concentration of approximately 30 mg/ml.

Description

3α-Aminocholestane is an inhibitor of SH2 domain-containing inositol-5'-phosphatase 1 (SHP-1; IC_{50} = ~2.5 µM).[1] It is selective for SHP-1 over SHP-2 and phosphatase and tensin homolog (PTEN; IC_{50}s = >20 µM). 3α-Aminocholestane induces hyperactivation of the tyrosine kinase SYK in patient-derived *Ph*$^+$ acute lymphoblastic leukemia (ALL) cells and selectively induces cytotoxicity in these cells over mature B cell lymphoma cells. It reduces leukemia burden and increases survival in a tyrosine kinase inhibitor-resistant patient-derived *Ph*$^+$ ALL mouse xenograft model when administered at a dose of 50 mg/kg. 3α-Aminocholestane reduces cell viability of OPM2 multiple myeloma (MM) cells in a concentration-dependent manner and of RPMI8226 MM cells when used at concentrations greater than or equal to 12.5 µM.[2] It halts the cell cycle at the G_0/G_1 or G_2/M stages in the highly proliferative OPM2 or less proliferative RPMI8226 cell lines, respectively. It induces apoptosis *via* activation of caspase-3, caspase-9, and poly(ADP-ribose) polymerase (PARP) in OPM2 cells but not in RPMI8226 cells. 3α-Aminocholestane reduces tumor burden and increases survival in an OPM2 mouse xenograft model.

References

1. Chen, Z., Shojaee, S., Buchner, M., *et al.* Signaling thresholds and negative B cell selection in acute lymphoblastic leukemia. *Nature* **521(7552),** 357-361 (2015).
2. Fuhler, G.M., Brooks, R., Toms, B., *et al.* Therapeutic potential of SH2 domain-containing inositol-5'-phosphatase 1 (SHIP1) and SHIP2 inhibition in cancer. *Mol. Med.* **18,** 65-75 (2012).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM