

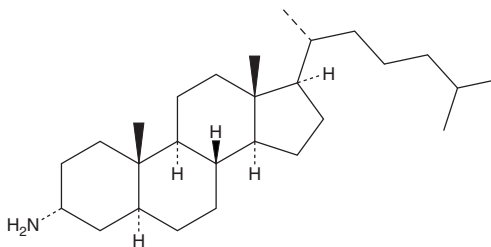
# PRODUCT INFORMATION



## 3 $\alpha$ -Aminocholestane

Item No. 27885

CAS Registry No.: 2206-20-4  
Formal Name: (3 $\alpha$ ,5 $\alpha$ )-cholestan-3-amine  
Synonym: 3AC  
MF: C<sub>27</sub>H<sub>49</sub>N  
FW: 387.7  
Purity:  $\geq 95\%$   
Supplied as: A solid  
Storage: -20°C  
Stability:  $\geq 4$  years



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

### Laboratory Procedures

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

### Description

3 $\alpha$ -Aminocholestane is an inhibitor of SH2 domain-containing inositol-5'-phosphatase 1 (SHP-1; IC<sub>50</sub> = ~2.5  $\mu$ M).<sup>1</sup> It is selective for SHP-1 over SHP-2 and phosphatase and tensin homolog (PTEN; IC<sub>50</sub>s = >20  $\mu$ M). 3 $\alpha$ -Aminocholestane induces hyperactivation of the tyrosine kinase SYK in patient-derived Ph<sup>+</sup> 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<sup>+</sup> ALL mouse xenograft model when administered at a dose of 50 mg/kg. 3 $\alpha$ -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  $\mu$ M.<sup>2</sup> It halts the cell cycle at the G<sub>0</sub>/G<sub>1</sub> or G<sub>2</sub>/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. 3 $\alpha$ -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).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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