

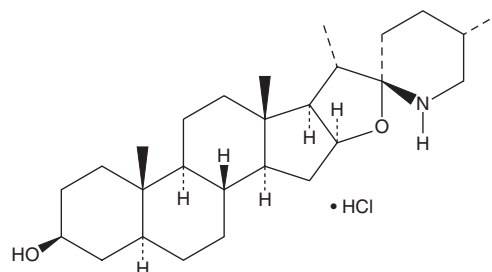
PRODUCT INFORMATION



Tomatidine (hydrochloride)

Item No. 16938

CAS Registry No.: 6192-62-7
Formal Name: (3β,5α,22β,25S)-spirosolan-3-ol, monohydrochloride
MF: C₂₇H₄₅NO₂ • HCl
FW: 452.10
Purity: ≥90%
Supplied as: A crystalline 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

Tomatidine (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the tomatidine (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Tomatidine (hydrochloride) is soluble in the organic solvent methanol at a concentration of approximately 10 mg/ml.

Description

Tomatidine is a steroidal alkaloid that has been found in the skins and leaves of tomatoes.¹ It suppresses NF-κB signaling in LPS-stimulated macrophages, blocking induced expression of inducible nitric oxide synthase (iNOS) and COX-2. Tomatidine inhibits acid sphingomyelinase activity by 84.2% when used at a concentration of 10 mM.² It also has antibacterial properties, preferentially blocking the replication of *S. aureus* variants that are pathogenic in cystic fibrosis over normal strains (MICs = 0.12 and >16 μg/ml, respectively).³ It prevents skeletal muscle atrophy associated with fasting or spinal cord injury in mice.⁴ Tomatidine has also been used as a negative control for cyclopamine (Item No. 11321) in studies involving signaling mediated by the hedgehog pathway.⁵

References

1. Chiu, F.L. and Lin, J.K. Tomatidine inhibits iNOS and COX-2 through suppression of NF-κB and JNK pathways in LPS-stimulated mouse macrophages. *FEBS Letters* **582(16)**, 2407-2412 (2008).
2. Kornhuber, J., Muehlbacher, M., Trapp, S., et al. Identification of novel functional inhibitors of acid sphingomyelinase. *PLoS One* **6(8)** (2011).
3. Mitchell, G., Gattuso, M., Grondin, G., et al. Tomatidine inhibits replication of *Staphylococcus aureus* small-colony variants in cystic fibrosis airway epithelial cells. *Antimicrob. Agents Chemo.* **55(5)**, 1937-1945 (2011).
4. Dyle, M.C., Ebert, S.M., Cook, D.P., et al. Systems-based discovery of tomatidine as a natural small molecule inhibitor of skeletal muscle atrophy. *J. Biol. Chem.* **289(21)**, 14913-14924 (2014).
5. Zhao, C., Chen, A., Jamieson, C.H., et al. Hedgehog signalling is essential for maintenance of cancer stem cells in myeloid leukaemia. *Nature* **458(7239)**, 776-779 (2009).

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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