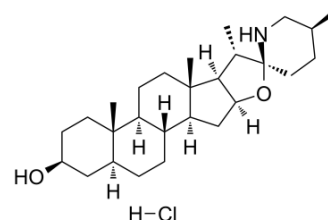


## Tomatidine hydrochloride

Cat. No.:	HY-N2149A
CAS No.:	6192-62-7
Molecular Formula:	C <sub>27</sub> H <sub>46</sub> ClNO <sub>2</sub>
Molecular Weight:	452.11
Target:	NF-κB; JNK; Autophagy
Pathway:	NF-κB; MAPK/ERK Pathway; Autophagy
Storage:	Please store the product under the recommended conditions in the COA.



### BIOLOGICAL ACTIVITY

Description	Tomatidine hydrochloride acts as an anti-inflammatory agent by blocking NF-κB and JNK signaling <sup>[1]</sup> . Tomatidine hydrochloride activates autophagy either in mammal cells or C elegans <sup>[2]</sup> .	
IC <sub>50</sub> & Target	p65	JNK
In Vitro	Tomatidine decreases inducible NO synthase and COX-2 expression through suppression of I-κBα phosphorylation, NF-κB nuclear translocation and JNK activation, which in turn inhibits c-jun phosphorylation and Oct-2 expression. Tomatidine, solasodine and diosgenin (40 μM) show 66%, 22% and 41% inhibition of nitrite production, respectively. The iNOS protein is barely detectable in unstimulated cells but markedly increases after LPS treatment, and Tomatidine causes dose-dependent inhibition of LPS-induced iNOS expression. p65 is the major component of NF-κB in LPS-stimulated macrophages, the effect of Tomatidine on p65 DNA-binding activity is determined. In the presence of Tomatidine at 10-40 μM, the binding activity of NF-κB is suppressed in a dose-dependent manner. Tomatidine inhibits the phosphorylation of I-κB, blocks the I-κB production, and furthermore suppresses p65 NF-κB translocation to the nucleus and modulated binding activity <sup>[1]</sup> .	

### PROTOCOL

Cell Assay <sup>[1]</sup>	RAW 264.7 cells, derived from murine macrophages, are cultured in DMEM supplemented with 10% endotoxin-free, heat-inactivated fetal calf serum, Penicillin (100 units/mL), and Streptomycin (100 μg/mL) in a 5% CO <sub>2</sub> atmosphere at 37 °C in a humidified incubator. For all assay, cell is plated at 2×10 <sup>5</sup> cells/cm <sup>2</sup> in culture dishes or plates. Treatment with vehicle (0.1% DMSO or 0.1% ethanol), test compounds and/or LPS is carried out under serum-free conditions <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
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### CUSTOMER VALIDATION

- FASEB J. 2019 Feb;33(2):2574-2586.
- Eur J Pharmacol. 2020 Jun 21;173280.

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## REFERENCES

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[1]. Chiu FL, et al. Tomatidine inhibits iNOS and COX-2 through suppression of NF-kappaB and JNK pathways in LPS-stimulated mouse macrophages. FEBS Lett. 2008 Jul 9;582(16):2407-12.

[2]. Anil Ahsan, et al. Tomatidine Protects Against Ischemic Neuronal Injury by Improving Lysosomal Function. Eur J Pharmacol. 2020 Jun 21;173280.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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