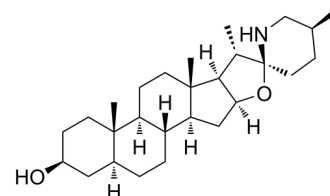


## Data Sheet

<b>Product Name:</b>	Tomatidine
<b>Cat. No.:</b>	CS-5821
<b>CAS No.:</b>	77-59-8
<b>Molecular Formula:</b>	C <sub>27</sub> H <sub>45</sub> NO <sub>2</sub>
<b>Molecular Weight:</b>	415.65
<b>Target:</b>	JNK; NF-κB
<b>Pathway:</b>	MAPK/ERK Pathway; NF-κB
<b>Solubility:</b>	H <sub>2</sub> O : < 0.1 mg/mL (insoluble); DMSO : 2.86 mg/mL (6.88 mM); Need ultrasonic



### BIOLOGICAL ACTIVITY:

Tomatidine acts as an anti-inflammatory agent by blocking **NF-κB** and **JNK** signaling.

IC<sub>50</sub> & Target: NF-κB<sup>[1]</sup>

JNK<sup>[1]</sup>

**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 (Extracted from published papers and Only for reference)

**Cell Assay:** Tomatidine is prepared in 0.1% DMSO or 0.1% ethanol<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>.

### References:

[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.

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

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