Fluxametamide

Cat. No.: HY-108690
CAS No.: 928783-29-3
Molecular Formula: C₂₀H₁₆Cl₂F₃N₃O₃
Molecular Weight: 474.26
Target: GABA Receptor
Pathway: Membrane Transporter/Ion Channel; Neuronal Signaling
Storage: Powder
-20°C 3 years
4°C 2 years
In solvent
-80°C 6 months
-20°C 1 month

SOLVENT & SOLUBILITY

In Vitro
DMSO: 125 mg/mL (263.57 mM; Need ultrasonic)
H₂O: < 0.1 mg/mL (insoluble)

Preparing Stock Solutions

<table>
<thead>
<tr>
<th>Concentration</th>
<th>Mass (mL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mg</td>
<td>2.1085 mL</td>
</tr>
<tr>
<td>5 mg</td>
<td>10.5427 mL</td>
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<tr>
<td>10 mg</td>
<td>21.0855 mL</td>
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</tbody>
</table>

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (4.39 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (4.39 mM); Clear solution

BIOLOGICAL ACTIVITY

Description
Fluxametamide is an insecticide with wide spectrum, acts as an antagonist of GABA- and glutamate-gated chloride channels, with IC₅₀ of 1.95 nM and 225 nM for M. domestica GABACls and GluCls.

IC₅₀ & Target
IC₅₀: 1.95 nM (M. domestica GABACls), 225 nM (M. domestica GluCls)

In Vitro
Fluxametamide is an antagonist of GABA- and glutamate-gated chloride channels, dose-dependently inhibits currents induced by GABA and glutamate in M. domestica GABACls and GluCls, with IC₅₀ values of 1.95 (1.18-3.21) nM and 225 (137-372) nM, respectively, and displays potent antagonistic activity against T. urticae GABACls with an IC₅₀ of
Fluxametamide inhibits GABA responses in the wild-type *L. striatellus* GABACls with IC$_{50}$ values of 1.40 (0.57-3.29) nM; in the A2′N mutant GABACls, the IC$_{50}$ value is 3.51 (2.17-5.69) nM. Moreover, Fluxametamide scarcely inhibits GABA (EC$_{50}$)-induced currents in rat GABACls at 10 μM and with no inhibition on glycine (EC$_{50}$)-induced current in human α1 GlyCls at tested concentrations.$^{[1]}$

**In Vivo**

Fluxametamide shows significant insecticidal activity with an LD$_{50}$ (LD$_{95}$) value of 12.9 ± 4.9 ng/fly (38.7 ± 6.3 ng/fly) $^{[1]}$.  

**REFERENCES**