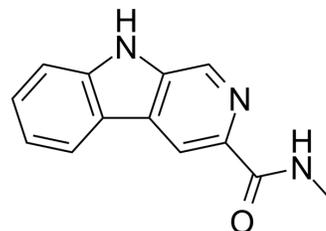


## FG 7142

|                    |  |       |         |
|--------------------|--|-------|---------|
| Cat. No.:          | HY-100991  |       |         |
| CAS No.:           | 78538-74-6                                       |       |         |
| Molecular Formula: | C <sub>13</sub> H <sub>11</sub> N <sub>3</sub> O |       |         |
| Molecular Weight:  | 225.25   |       |         |
| Storage:           | Powder   | -20°C | 3 years |
|                    |  | 4°C   | 2 years |
|                    | In solvent                                       | -80°C | 2 years |
|                    |  | -20°C | 1 year  |



### SOLVENT & SOLUBILITY

|   |   |                          |      |       |           |            |            |
|---|---|--------------------------|------|-------|-----------|------------|------------|
| In Vitro  | DMSO : 100 mg/mL (443.95 mM; Need ultrasonic)   |                          |      |       |           |            |            |
|   | Preparing Stock Solutions   | Solvent<br>Concentration | Mass | 1 mg  | 5 mg      | 10 mg      |            |
|   |   |                          |      | 1 mM  | 4.4395 mL | 22.1976 mL | 44.3951 mL |
|   |   |                          |      | 5 mM  | 0.8879 mL | 4.4395 mL  | 8.8790 mL  |
|   |   |                          |      | 10 mM | 0.4440 mL | 2.2198 mL  | 4.4395 mL  |
| Please refer to the solubility information to select the appropriate solvent. |   |                          |      |       |           |            |            |
| In Vivo   | 1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline<br>Solubility: ≥ 2.5 mg/mL (11.10 mM); Clear solution |                          |      |       |           |            |            |
|   | 2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)<br>Solubility: ≥ 2.5 mg/mL (11.10 mM); Clear solution            |                          |      |       |           |            |            |
|   | 3. Add each solvent one by one: 10% DMSO >> 90% corn oil<br>Solubility: ≥ 2.5 mg/mL (11.10 mM); Clear solution                            |                          |      |       |           |            |            |

### BIOLOGICAL ACTIVITY

|                           |   |
|---------------------------|---|
| Description               | FG 7142 (ZK 39106; LSU-65), a non-selectively benzodiazepine inverse agonist, has high affinity for the α1 subunit-containing GABAA receptor (K <sub>i</sub> =91 nM). FG 7142 (ZK 39106; LSU-65) also modulates GABA-induced chloride flux at GABAA receptors expressing the α1 subunit (EC <sub>50</sub> = 137 nM). FG 7142 (ZK 39106; LSU-65) can increase tyrosine hydroxylation and cause upregulation of β-adrenoceptors in mouse cerebral cortex <sup>[1]</sup> . |
| IC <sub>50</sub> & Target | Ki: 91 nM (GABAA receptor) <sup>[1]</sup>   |
| In Vitro                  | FG-7142 has affinity for those expressing the α subunit, the K <sub>i</sub> values are 91 nM; 330 nM; 492 nM and 2.150 μM for α1, α2,α3 and α5 subunits, respectively <sup>[1]</sup> .  |

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FG-7142 has a high efficacy in modulating GABA-induced chloride flux at GABAA receptors expressing the  $\alpha 1$  subunit ( $EC_{50} = 137$  nM) as compared to the other  $\alpha$  subunits ( $EC_{50}$ :  $\alpha 2 = 507$  nM,  $\alpha 3 = 1.021 \mu M$ ,  $\alpha 5 = 1.439 \mu M$ )<sup>[1]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

**In Vivo**

FG-7142 (intraperitoneal injection; 15-30 mg/kg) activates mesolimbocortical dopaminergic projections, leading to increases in dopamine in the prefrontal cortex and the nucleus accumbens in rats<sup>[1]</sup>.  
FG-7142 (intraperitoneal injection; 15 mg/kg) increases tyrosine hydroxylase activity and dopamine turnover in the medial prefrontal cortex and ventral tegmentum in vivo, but effects are not detected in mesolimbic or nigrostriatal areas<sup>[1]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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

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