

## Ryanodine

**Cat. #:** R-500

**Origin:** Isolated from the stem and roots of the *Ryania speciosa* plant.

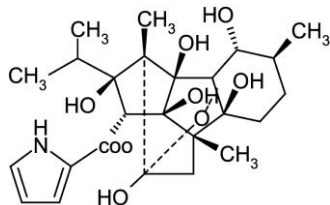
**Source description:** Natural.

**M.W.:** 493.5 daltons.

**Purity:** >98%.

**Effective concentration:** 1-25  $\mu$ M.

**Structure:**



**Chemical name:** 1H-Pyrrole-2-carboxylic acid, (3S,4R,4aR,6S,7S,8R,8aS,8bR,9S,9aS)-dodecahydro-4,6,7,8 a,8b,9a-hexahydroxy-3,6a,9-trimethyl-7-(1-methylethyl)-6,9-methanobenzo[1,2]pentaleno[1,6-bc]furan-8-yl ester.

**Molecular formula:** C<sub>25</sub>H<sub>35</sub>NO<sub>9</sub>.

**CAS No.:** 15662-33-6.

**Activity:** Ryanodine is a blocker of the Ryanodine receptor (RyR) Ca<sup>2+</sup> release channel<sup>1</sup>.

**References:**

1. Sutko, J.L. *et al.* (1997) *Pharmacol. Rev.* **49**, 53.

**Sizes:** 0.5 mg, 1 mg, 5 x 1 mg, or 5 mg lyophilized powder.

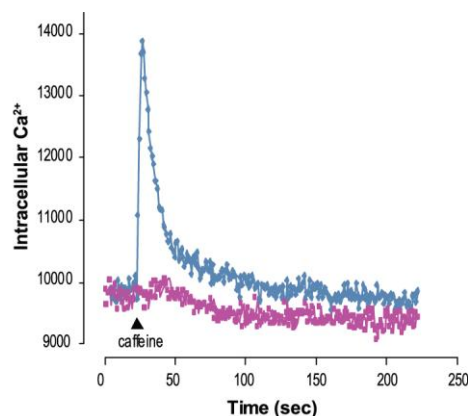
**Storage before reconstitution:** Lyophilized powder can be stored intact at room temperature for several weeks. For longer periods, it should be stored at -20°C.

**Reconstitution:** Methanol. Centrifuge all product preparations before use (10000 x g 5 min).

**Concentration after reconstitution:** Dissolving 1 mg in 1 ml gives a stock solution of 2 mM.

**Storage and stability after reconstitution:** Up to one week at 4°C or six months at -20°C.

**Bioassay:** Ryanodine inhibits caffeine-induced Ryanodine receptor activation in cardiomyocyte cells.



Ca<sup>2+</sup> flow from the ER to the cytosol in fluo-3 AM-loaded cardiomyocyte cells, stimulated with 2 mM caffeine in the presence (purple) or absence (blue) of 25  $\mu$ M **Ryanodine** (#R-500). Time of stimulation with caffeine is represented by the arrow. Extracellular Ca<sup>2+</sup> was absorbed with EGTA.

**For research purposes only, not for human use.**

**Last Update:** July, 2010.