Ryanodine
Item No. 14962

CAS Registry No.: 15662-33-6
Formal Name: (3S,4R,4aR,6S,6aS,7S,8R,8aS,8bR,9S,9aS)-dodecahydro-4,6,7,8a,8b,9a-hexahydroxy-3,6a,9-trimethyl-7-(1-methylethyl)-6,9-methanobeno[1,2]pentaleno[1,6-bc]furan-8-yl ester-1H-pyrole-2-carboxylic acid

MF: C_{25}H_{35}NO_{9}
FW: 493.6
Purity: ≥98%
Stability: ≥6 months at -20°C
Supplied as: A white to off-white solid

Laboratory Procedures
For long term storage, we suggest that ryanodine be stored as supplied at -20°C. It should be stable for at least six months.
Ryanodine is supplied as a white to off-white solid. A stock solution may be made by dissolving the ryanodine in the solvent of choice. Ryanodine is soluble in ethanol at a concentration of approximately 10 mM.
Ryanodine, a poisonous alkaloid found in the South American plant *R. speciosa*, is the prototypical ligand for ryanodine receptors, a family of calcium release channels located in skeletal and cardiac muscle. While historically used as a potent organic insecticide specific against crop-damaging insects, ryanodine has been an invaluable investigative tool for identifying the various ryanodine receptor isoforms and characterizing their role in calcium signaling. At nanomolar concentrations, ryanodine binding locks the receptor in a subconductance state that increases the calcium permeability of sarcoplasmic reticulum membranes (IC_{50} = 10 and 2.8 nM in skeletal and cardiac muscle, respectively), leading to muscular contractions. At micromolar (~100 μM) concentrations, ryanodine irreversibly inhibits ryanodine receptor channel opening, which results in paralysis.

References

Related Products
For a list of related products please visit: www.caymanchem.com/catalog/14962

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent to your institution.

WARRANTY AND LIMITATION OF REMEDY
Cayman Chemical makes no warranty or guarantee of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals herein. Cayman warrants only to the original customer that the material will meet its specifications at the time of delivery. Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have any obligation or liability, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

For further details, please refer to our Warranty and Limitation of Remedy located on our website and in our catalog.