



# SZABO SCANDIC

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## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

[mail@szabo-scandic.com](mailto:mail@szabo-scandic.com)

[www.szabo-scandic.com](http://www.szabo-scandic.com)

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic)



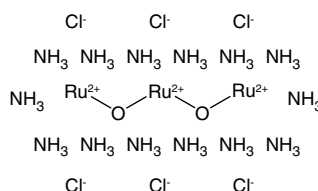
# Product Information



## Ruthenium Red

Item No. 14339

**CAS Registry No.:** 11103-72-3  
**Synonyms:** Ammoniated Ruthenium Oxychloride,  
C.I. 77800  
**MF:**  $\text{H}_{42}\text{N}_{14}\text{O}_2\text{Ru}_3 \cdot 6\text{Cl}$   
**FW:** 786.4  
**Stability:**  $\geq 2$  years at  $-20^\circ\text{C}$   
**Supplied as:** A crystalline solid



### Laboratory Procedures

For long term storage, we suggest that ruthenium red be stored as supplied at  $-20^\circ\text{C}$ . It should be stable for at least two years.

Ruthenium red is supplied as a crystalline solid. The solubility of ruthenium red in water is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Ruthenium red is a polycationic dye that inhibits sarcoplasmic reticulum  $\text{Ca}^{2+}$  release, blocks  $\text{Ca}^{2+}$  uptake and release from mitochondria, and prevents  $\text{Ca}^{2+}$  release from ryanodine-sensitive intracellular stores in skeletal and cardiac muscle ( $K_s = 16 \text{ nM} - 5.9 \text{ }\mu\text{M}$ , depending on  $\text{Ca}^{2+}$  concentration).<sup>1</sup> Additionally, ruthenium red binds to anionic sites of cellular components, predominantly to surface glycoconjugates, and can be used as a marker of negative binding sites related to cellular transport, barrier, or receptor functions.<sup>2</sup>

### References

1. Xu, L., Tripathy, A., Pasek, D.A., *et al.* Ruthenium red modifies the cardiac and skeletal muscle  $\text{Ca}^{2+}$  release channels (ryanodine receptors) by multiple mechanisms. *J. Biol. Chem.* **274**(46), 32680-32691 (1999).
2. El-Saggan, A.H. and Uhrík, B. Improved staining of negative binding sites with ruthenium red on cryosections of frozen cells. *Gen. Physiol. Biophys.* **21**, 457-461 (2002).

### Related Products

For a list of related products please visit: [www.caymanchem.com/catalog/14339](http://www.caymanchem.com/catalog/14339)

### Cayman Chemical

#### Mailing address

1180 E. Ellsworth Road  
Ann Arbor, MI  
48108 USA

#### Phone

(800) 364-9897  
(734) 971-3335

#### Fax

(734) 971-3640

#### E-Mail

[custserv@caymanchem.com](mailto:custserv@caymanchem.com)

#### Web

[www.caymanchem.com](http://www.caymanchem.com)

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

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