



SZABO SCANDIC

Part of Europa Biosite

Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

Weitere Information auf den folgenden Seiten!
See the following pages for more information!



Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

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

www.szabo-scandic.com

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



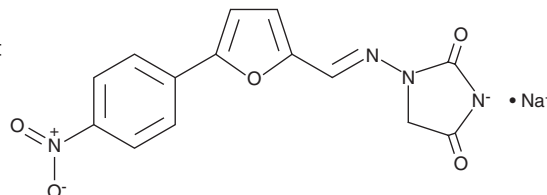
PRODUCT INFORMATION



Dantrolene (sodium salt)

Item No. 14326

CAS Registry No.: 14663-23-1
Formal Name: 1-[[[5-(4-nitrophenyl)-2-furanyl]methylene]amino]-2,4-imidazolidinedione, monosodium salt
MF: $C_{14}H_9N_4O_5 \cdot Na$
FW: 336.2
Purity: $\geq 98\%$
UV/Vis.: λ_{max} : 226, 309, 348, 387 nm
Supplied as: A crystalline solid
Storage: $-20^{\circ}C$
Stability: ≥ 4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Dantrolene (sodium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the dantrolene (sodium salt) in the solvent of choice, which should be purged with an inert gas. Dantrolene (sodium salt) is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of dantrolene (sodium salt) in these solvents is approximately 2 and 10 mg/ml, respectively.

Dantrolene (sodium salt) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, dantrolene (sodium salt) should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Dantrolene (sodium salt) has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Dantrolene is an inhibitor of calcium release from the sarcoplasmic reticulum ($IC_{50} = 0.3 \mu M$).¹ It binds to sarcoplasmic reticulum vesicles isolated from normal and malignant hyperthermia-susceptible (MHS) pigs with K_d values of 0.3 and $0.09 \mu M$, respectively. Dantrolene reduces spontaneous calcium wave frequency and amplitude in the presence of calmodulin in isolated mouse cardiomyocytes with IC_{50} values of 0.42 and $0.19 \mu M$, respectively.² It reduces the magnitude of electrically stimulated twitch tensions in isolated rat extensor digitorum longus and soleus muscles ($IC_{50} = 3 \mu g/ml$) and MHS pigs ($ED_{50} = 0.85 mg/kg$).^{3,4} Formulations containing dantrolene have been used in the treatment of malignant hyperthermia.

References

1. Kobayashi, S., Yano, M., Suetomi, T., *et al.* Dantrolene, a therapeutic agent for malignant hyperthermia, markedly improves the function of failing cardiomyocytes by stabilizing interdomain interactions within the ryanodine receptor. *J. Am. Coll. Cardiol.* **53**(21), 1993-2005 (2009).
2. Oo, Y.W., Gomez-Hurtado, N., Walweel, K., *et al.* Essential role of calmodulin in RyR inhibition by dantrolene. *Mol. Pharmacol.* **88**(1), 57-63 (2015).
3. Kotsias, B.A. and Muchnik, S. Reversible effect of dantrolene sodium on twitch tension of rat skeletal muscle. *Arch. Neurol.* **35**(4), 234-236 (1978).
4. Nelson, T.E. and Flewellen, E.H. Rationale for dantrolene vs. procainamide for treatment of malignant hyperthermia. *Anesthesiology* **50**(2), 118-122 (1979).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 10/18/2022

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM