



# SZABO SCANDIC

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## Produktinformation



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Laborgeräte & Service

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- Trockeneiszuschlag
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- Expressversand

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# PRODUCT INFORMATION



## Dofetilide

Item No. 15045

CAS Registry No.: 115256-11-6

Formal Name: N-[4-[2-[methyl[2-[4-[(methylsulfonyl)amino]phenoxy]ethyl]amino]ethyl]phenyl]-methanesulfonamide

Synonyms: Tikosyn, UK 68789

MF:  $C_{19}H_{27}N_3O_5S_2$

FW: 441.6

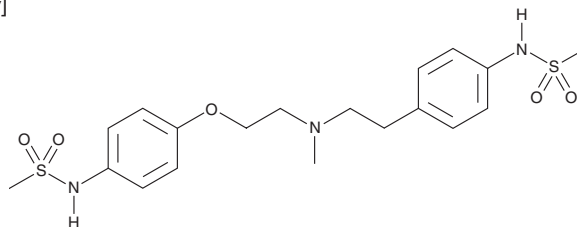
Purity:  $\geq 98\%$

UV/Vis.:  $\lambda_{max}$ : 232 nm

Supplied as: A crystalline solid

Storage:  $-20^\circ\text{C}$

Stability:  $\geq 2$  years



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

### Laboratory Procedures

Dofetilide is supplied as a crystalline solid. A stock solution may be made by dissolving the dofetilide in the solvent of choice. Dofetilide is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of dofetilide in these solvents is approximately 30 mg/ml.

Dofetilide is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, dofetilide should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Dofetilide has a solubility of approximately 0.4 mg/ml in a 1:20 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Dofetilide is a class III antiarrhythmic agent that prolongs cardiac action potential duration by selectively inhibiting the rapidly activating inward rectifying component of net delayed rectifier  $K^+$  current ( $IC_{50} = 31.5$  nM in guinea pig cardiomyocytes).<sup>1</sup> However, at 1  $\mu\text{M}$ , dofetilide has pro-arrhythmic activity, inducing early afterdepolarizations (prolonged repolarization) in cell models and Torsade de Pointes in a rabbit screen for proarrhythmic properties when administered at a dose of 10 mg/kg.<sup>2</sup> Formulations containing dofetilide have been used in the treatment of highly symptomatic atrial fibrillation and the conversion of flutter to normal sinus rhythm.<sup>3</sup>

### References

1. Jurkiewicz, N.K. and Sanguinetti, M.C. Rate-dependent prolongation of cardiac action potentials by a methanesulfonanilide class III antiarrhythmic agent. *Circ. Res.* **72**(1), 75-83 (1993).
2. Nalos, L., Varkevisser, R., Jonsson, M.K., *et al.* Comparison of the  $I_{Kr}$  blockers moxifloxacin, dofetilide and E-4031 in five screening models of pro-arrhythmia reveals lack of specificity of isolated cardiomyocytes. *Br. J. Pharmacol.* **165**(2), 467-478 (2012).
3. Dunnink, A., van Opstal, J.M., Oosterhoff, P., *et al.* Ventricular remodelling is a prerequisite for the induction of dofetilide-induced torsade de pointes arrhythmias in the anaesthetized, complete atrio-ventricular-block dog. *Europace* **14**(3), 431-436 (2012).

#### 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.

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