

PRODUCT INFORMATION



VU590 (hydrochloride)

Item No. 15177

CAS Registry No.: 1783987-83-6
Formal Name: 7,13-bis(4-nitrobenzyl)-1,4,10-trioxo-7,13-diazacyclopentadecane, dihydrochloride

Synonyms: CID-4536383, ML-111

MF: $C_{24}H_{32}N_4O_7 \cdot 2HCl$

FW: 561.5

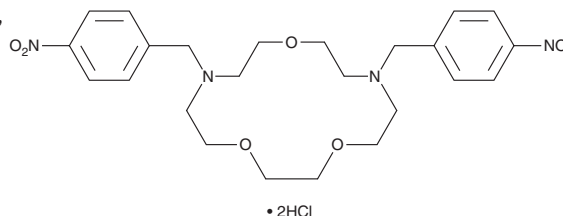
Purity: $\geq 98\%$

UV/Vis.: λ_{max} : 259, 350 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

VU590 (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the VU590 (hydrochloride) in the solvent of choice, which should be purged with an inert gas. VU590 (hydrochloride) is soluble in the organic solvent DMSO. It is also soluble in water. The solubility of VU590 (hydrochloride) in DMSO and water is approximately 20 and 10 mg/ml, respectively. We do not recommend storing the aqueous solution for more than one day.

Description

KCNJ1 ($K_{ir}1.1$, or renal outer medullary potassium channel) and KCNJ13 ($K_{ir}7.1$) are inwardly rectifying two-transmembrane K^+ channels. KCNJ1 has critical roles in kidney function, while KCNJ13 is important in the eye, kidney, and small intestine.^{1,2} VU590 is a small molecule inhibitor of KCNJ1 ($IC_{50} = 294$ nM) which also causes 70% inhibition of KCNJ13 at $10 \mu M$.³ It has no effect on the related channels KCNJ2 ($K_{ir}2.1$) and KCNJ10 ($K_{ir}4.1$) at a concentration of $10 \mu M$.³

References

1. Hebert, S.C., Desir, G., Giebisch, G., *et al.* Molecular diversity and regulation of renal potassium channels. *Physiol. Rev.* **85**(1), 319-371 (2005).
2. Edwards, A.O. Clinical features of the congenital vitreoretinopathies. *Eye (Lond)* **22**(10), 1233-1242 (2008).
3. Denton, J.S., Weaver, C.D., Lewis, L.M., *et al.* Discovery of a small molecule inhibitor of ROMK and $K_{ir}7.1$, in *Probe Reports from the NIH Molecular Libraries Program*, 1 (2009).

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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