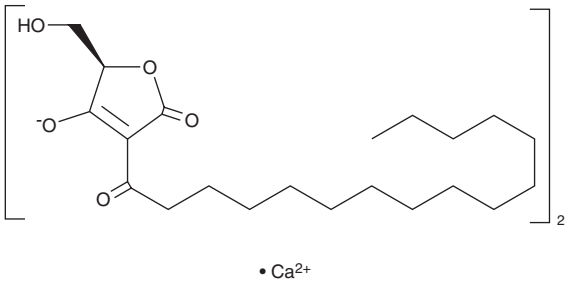
PRODUCT INFORMATION

RK-682 (calcium salt)

Item No. 19450

CAS Registry No.:	332131-32-5
Formal Name:	(5R)-4-hydroxy-5-(hydroxymethyl)-3-(1-oxohexadecyl)-2(5H)-furanone, calcium salt (2:1)
Synonyms:	CI-010, TAN 1364B
MF:	$[C_{21}H_{35}O_5]_2 \bullet Ca$
FW:	775.1
Purity:	≥95%
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Bacterium/*Streptomyces* sp.



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

Laboratory Procedures

RK-682 (calcium salt) is supplied as a solid. A stock solution may be made by dissolving the RK-682 (calcium salt) in the solvent of choice, which should be purged with an inert gas. RK-682 (calcium salt) is soluble in organic solvents such as ethanol, methanol, DMSO, and dimethyl formamide.

Description

Protein tyrosine phosphatases (PTPs) remove phosphate from tyrosine residues of cellular proteins. Reversible phosphorylation catalyzed by the coordinated actions of protein tyrosine kinases and phosphatases is key to the regulation of the signaling events that control cell growth and proliferation, differentiation, and survival or apoptosis, as well as adhesion and motility. RK-682, a bioactive compound originally isolated from the fermentation of *Streptomyces* sp. 88-682, is an inhibitor of the PTPs.[1] It inhibits the phosphorylation of CD45 and VHR with IC_{50} values of 54 and 2 µM, respectively, and arrests cell cycle progress at the G_1/S transition.[1] It is also reported to inhibit heparanase (IC_{50} = 17 µM), an endo-β-D-glucuronidase involved in tumor cell invasion and angiogenesis.[2] RK-682 (calcium salt) is a less soluble version of the free acid.[3]

References

1. Hamaguchi, T., Sudo, T., and Osada, H. RK-682, a potent inhibitor of tyrosine phosphatase, arrested the mammalian cell cycle progression at G_1phase. *FEBS Lett.* **372(1)**, 54-58 (1995).
2. Ishida, K., Hirai, G., Murakami, K., *et al.* Structure-based design of a selective heparanase inhibitor as an antimetastatic agent. *Mol. Cancer Ther.* **3(9)**, 1069-1077 (2004).
3. Sodeoka, M., Sampe, R., Kojima, S., *et al.* Asymmetric synthesis of a 3-acyltetronic acid derivative, RK-682, and formation of its calcium salt during silica gel column chromatography. *Chem. Pharm. Bull. (Tokyo)* **49(2)**, 206-212 (2001).

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