RK-682
PRODUCT DATA SHEET

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Product Name:	RK-682
Product Number:	R033
CAS Number:	332131-32-5
Molecular Formula:	$C_{42}H_{70}CaO_{10}$
Molecular Weight:	775.1
Appearance:	White Solid
Storage Conditions:	-20°C
Description:	RK-682 is a dimeric calcium complex of the major analogue of a tetronic acid complex isolated from Streptomyces. Although reported by researchers at RIKEN in 1995, subsequent synthesis in 2001 showed that RK-682 was in fact the calcium complex formed during silica chromatography. Confusion about the structure of RK-682 has lead to the monomeric sub-unit, TAN 1364B (3-hexadecanoyl-5-hydroxymethyltetronic acid) being mis-named as RK-682 by many suppliers. RK-682 is soluble in ethanol, methanol, DMF and DMSO.
Mechanism of Action:	RK-682 inhibits protein tyrosine phosphatases, phospoholipase A2, heparinase and HIV-1 protease. It is unclear whether biological activity is due to the monomer (TAN 1364B) or dimeric complex (RK-682).
References:	RK-682, a potent inhibitor of tyrosine phosphatase, arrested the mammalian cell cycle progression at G1phase. Hamaguchi T. et al. FEBS Lett. 1995, 372, 54. Structure-based design of a selective heparanase inhibitor as an antimetastatic agent. Ishida K. et al. Mol. Cancer Ther. 2004, 3, 1069. The mechanism of ATP-induced long-term potentiation involves extracellular phosphorylation of membrane proteins in guinea-pig hippocampal CA1 neurons. Fujii S. et al. Neurosci. Lett. 1995, 187, 130. Asymmetric synthesis of a 3-acyltetronic acid derivative, RK-682, and formation of its calcium salt during silica gel column chromatography. Sodeoka M. et al. Chem. Pharm. Bull. 2001, 49, 206