PRODUCT INFORMATION



Tetranactin

Item No 26687

1001110.2000			~ H .	
CAS Registry No.:	33956-61-5			
Formal Name:	(1R,2R,5R,7R,10S,11S,14S,16S,19R,20R,23R,		7_0 /	0
	25R,28S,29S,32S,34S)-5,14,23,32-tetraethyl-		`	\rangle
	2,11,20,29-tetramethyl-4,13,22,31,37,38,39,40-		≽o	
	octaoxapentacyclo[32.2.1.1 ^{7,10} .1 ^{16,19} .1 ^{25,28}]	Q	/	
	tetracontane-3,12,21,30-tetrone	```		0=
MF:	C ₄₄ H ₇₂ O ₁₂	[\sim	
FW:	793.0			
Purity:	≥95%	H…	, o	0
Supplied as:	A solid	ζ		
Storage:	-20°C		́н́	10° \sim H \sim
Stability:	≥4 vears		i	
Item Origin	Bacterium/Strentomyces sp			
Conglin.	Dacterium, Sucptomyces sp.			

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

Laboratory Procedures

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

Description

Tetranactin is a macrotetrolide and a monovalent cation ionophore that has been found in S. aureus and has antibacterial, insecticidal, and mitogenic activities.^{1,2} It exhibits an equilibrium permeability ratio 1,000-fold greater for lithium than sodium or cesium ions accross bilayer membranes at low voltages.² Tetranactin inhibits the growth of Gram-positive bacteria and C. miyabeanus and R. solani fungi when used at concentrations less than 0.9 μ g/ml.¹ Tetranactin (0.5-1.5 μ g per insect) dose-dependently increases the mortality of adult C. chinensis weevils up to 100% and has mitogenic activity against T. telarius when sprayed onto plants with an LC₅₀ value of 9.2 μ g/ml. It reduces IL-1 β - and cAMP-induced secretion of phospholipase A₂ (PLA₂) from rat mesangial cells (IC₅₀s = 43 and 33 nM, respectively).³ Tetranactin (50 ng/ml) suppresses the proliferation of human T lymphocytes induced by allogeneic cells and IL-2 and supresses the generation of cytotoxic T lymphocytes in mixed lymphocyte cultures.⁴ In vivo, tetranactin (10 mg/animal per day) completely inhibits the formation of experimental autoimmune uveoretinitis (EAU) in rats.⁵

References

- 1. Ando, K., Oishi, H., Hirano, S., et al. J. Antibiot. (Tokyo) 24(6), 347-352 (1971).
- 2. Krasne, S. and Eisenman, G. J. Membr. Biol. 30(1), 1-44 (1976).
- 3. Walker, G., Kunz, D., Pignat, W., et al. Eur. J. Pharmacol. 306(1-3), 265-270 (1996).
- 4. Callewaert, D.M., Radcliff, G., Tanouchi, Y., et al. Immunopharmacology 16(1), 25-32 (1988).
- 5. Tanouchi, Y. and Shichi, H. Immunology 63(3), 471-475 (1988).

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

SAFFTY 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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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