Specification

Polymyxin B Sulfate *BioChemica* A0890

Physical Description:	Solid
Product Code:	A0890
Product Name:	Polymyxin B Sulfate *BioChemica*
Specifications:	Activity (dried subst.): approx. 7000 I.U./mg pH (2 %; H_2O): 5.0 - 7.0 Sulfated ash: max. 1 % Loss on drying: max. 5 % Sulfate: max. 17 %
Hazard pictograms	
WGK:	1
Storage:	RT protected from light
Signal Word:	Attention
GHS Symbols:	GHS07
H Phrases:	H302
P Phrases:	P301+P312
Molecular Formula:	$C_{55}H_{96}N_{16}O_{13} \cdot 2H_2SO_4$
M:	1385.63 g/mol
CAS:	1405-20-5
EINECS:	215-774-7

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Specification

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CS:	29419000

Comment

Polymyxin B was isolated from *Bacillus polymyxa* and is a component of the polymyxin-complex, consisting of polymxyin A-E and M. Just polymyxin B and E are of practical importance. Polymyxin B is a basic, cyclic octa- (or hepta-) peptide with a peptide side chain. It permeabilizes the bacterial cytoplasma membrane by interaction with phospholipid components. The efflux of essential components explain the bactericidal activity against non-proliferating bacteria. The bactericidal activity will be reduced by divalent ions ($Fe^{2\+}$, $Mn^{2\+}$, $Ca^{2\+}$, $Mg^{2\+}$), non-saturated fatty acids and polyphosphates. Polymyxin B is only active against proliferating and non-proliferating gram negative bacteria.**Stability**\: It is a faint yellow powder, stable and resistant against heat (in solutions at pH values from 2 - 7, especially 3 -5). It is inactivated in strong acidic or alkaline solutions. An aqueous solution can be stored at \+4°C for approx. 2 months (5). Polymyxin may be dissolved in water or methanol (< 25 mg/ml). It is of low solubility in organic solvents.

Bibliography

(1)Storm, D.R. *et al.* (1977) *Ann. Rev. Biochem.* **46**, 723-763Review article\: Polymyxin and related peptide antibiotics. (2)Schächtele, C. *et al.* (1988) *Biochem. Biophys. Res. Com.* **151**, 542-547Stimulus-dependent inhibition of platelet aggregation by PKC-inhibitors. (3)Raynor, R.L. *et al.* (1991) *J. Biol. Chem.* **266**, 2753-2758Membrane interaction of amphiphil polypeptides\: Mastoparan, Melittin, Polymyxin B. (4)Lucas, M. *et al.* (1994) *Biochem. Pharmacol.* **47**, 667-672Protein kinase C activation increases the survival of mature lymphocytes. (5)Schupp, J.M. *et al.* (1995) *BioTechniques* **19**, 18-20Reagent for the permeabilisation of bacteria for enzyme assays.

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