Synthetic Procoagulant Phospholipid X9113 & X9115

Efficient anticoagulant testing world-wide

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FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES

INTENDED USE

The synthetic procoagulant phospholipids show more procoagulant activity than phospholipids extracted from natural biological sources. They are useful in Non Activated Clotting Time (NAPTT) tests for activated clotting factors and procoagulants (1). Also, for specifically bypassing the effect of lupus anticoagulants (LA) in phospholipid correction tests and as platelet lipid substitutes in APTT and dRVVT reagents (2).

INTRODUCTION

Phospholipids are an essential component in the clotting mechanism (3). Phosphatidyl serine expressed on activated platelets is particularly important for assembly of clotting factors into their interactive complexes but it does not work well on its own. Procoagulant phospholipid blends are included in most clotting reagents to overcome the effect of variable platelet counts in test plasmas. Di-oleyl phospholipids appear to have highest activities but are susceptible to oxidation and hydrolysis. Our blends contain 0.1% BHT antioxidant.

CONTENTS OF PRODUCT

	Product Code	Pack Size
DOPC:DOPS (7:3)	X9113	25 mg
DOPE:DOPS:DOPC (5:3:2)	X9115	25 mg

Note: Contains BHT at 0.5% to prevent oxidation.

LIMITATIONS

Note that results may vary with different commercial dRVVT and APTT reagents.

PRECAUTIONS

Store at < -25°C. Excess phospholipid solution can be frozen at -20°C or lower temperatures. Do not use after the expiry on the label. For further information, please refer to Safety Data Sheet and Product Information.

INSTRUCTIONS FOR USE

The phospholipids disperse slowly at a 1% level in water, saline, or preferably for better stability, 0.02M HEPES, 0.002M EDTA, pH 7 buffer. Incubate at 37°C for more rapid dispersion.

APPLICATION

Non-Activated Clotting Time test for procoagulants
Disperse sPPL at 1% (eg. 25mg/2.5ml=10mg/ml) in 0.09M sodium chloride 0.06M tris pH 7.5 buffer (diluent). Dilute this solution a further 1/50 (eg. 0.1ml/5ml diluent) to obtain a NAPTT reagent.

NAPTT tests are carried out on plasmas which may be activated by contact with negatively charged surfaces such as in glass tubes or which contain procoagulants.

For manual tests, take 0.1ml of a test plasma and 0.1ml of diluent into a plastic tube and prewarm it to 37C.
Add 0.1ml of pre-warmed NAPTT reagent and mix.
Then add 0.1ml prewarmed 0.025M calcium chloride, mix and time from that to a clotting endpoint at 37C.
The result with diluent alone and PNP as a test sample must be between 200 and 350 sec for the test system to be considered valid (abbreviated from the European Pharmacopoeia).

NOTE: NAPTT tests must be carried out in non-contact activating conditions, eg polystyrene tubes and non-activated normal plasma. Many variations on this procedure are possible and it can be automated.

Phospholipid Correction tests for Lupus Anticoagulants:
A phospholipid concentration of 10mg/ml (1% w/v) is suitable for spiking into test plasmas for LA correction with most dRVVT and APTTs. Thus 0.010ml of a 1% dispersion added to 0.5ml of test plasma will provide a final concentration 0.02% which should overcome the effect of most LA (2).
Clotting test results on plasmas containing LA are usually shortened by addition of phospholipid whereas other coagulation defects are minimally affected.

INDEMNITY NOTICE

Follow procedures and refer to precautions that may affect the stated or implied claims and performance of this product. Haematex Research Pty Ltd and its agents or distributors are not liable for damages.

REFERENCES

1. Etscheid M, et. al. Identification of Kallikrein and FXIa as impurities in therapeutic immunoglobulins: implications for the safety and control of intravenous blood products. Vox Sang. 2012; 102 (1): 40-6
2. Exner T, et al.Studies on phospholipids in the action of a lupus coagulation inhibitor.
Pathology.1975; 7: 319-28.
3. Zwaal R F, et. al. Lipid-protein interactions in blood coagulation. Biochim Biophys Acta. 1998;1376:433-53.

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