



BIOPHEN FACTOR X A NEW WAY OF MONITORING WARFARIN NOW AVAILABLE FROM ANIARA

**A Useful Tool for Monitoring Oral Anticoagulation Patients
with Prolonged Pro-Times**

*"Patients with lupus anticoagulants often have a prolonged Prothrombin time, which may complicate management of anticoagulant therapy."*¹

*"For patients receiving Warfarin, INR's obtained by using different thromboplastins greatly varied and often overestimated the extent of anticoagulation."*¹

*"The most reliable results were obtained with the chromogenic factor X ... assay."*¹

*"...the chromogenic factor X assay remains a valuable method to monitor oral anticoagulant therapy..."*²

*"Patients who have a Lupus Antibodies. which interferes with the PT should be monitored by the Factor X assay..."*³

Clinical Background

The difficulty of monitoring Warfarin therapy in patients with lupus anticoagulant has been well established. Standard methods of monitoring these types of patients may be substandard in that they often result in overestimation of anticoagulation. It has been shown that patients with lupus anticoagulants who require this therapy often demonstrate a prolonged baseline Prothrombin time (protime). When patients with lupus anticoagulants receive OAC therapy, the INR's vary significantly¹. This is because lupus patients can produce antiphospholipid antibodies that interfere with the phospholipid-dependent clotting reactions that are part of most protime assays. In contrast, the Factor X reaction does not require a phospholipid membrane surface, and therefore the chromogenic Factor X assay is a useful tool in the management of patients with lupus antibodies (inhibitors) who are receiving Warfarin therapy. Studies have shown that using a chromogenic assay to measure factor X levels in these patients is a reliable way to determine the intensity of coagulation^{1,2,3}.

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Valuable tool for monitoring oral anticoagulation in patients with prolonged pro-times, such as those with lupus anticoagulants and patients being bridged from thrombin inhibitors like Hirudin or Argatroban

- **Solution to dealing with unstable INRs in Warfarin patients with lupus inhibitors**
- **Eliminates the issues of varying sensitivities of different thromboplastins**
- **Reliable, readily available, and easy to use assay**
- **Assay can be brought onto automated coagulation analyzers**
- **Useful for detecting congenital Factor X Deficiencies**

ASSAY PRINCIPLE:

Using the BIOPHEN Factor X assay, Factor X is measured following a specific activation with RVV, an enzyme extracted from snake venom (Russell’s viper venom). Activated Factor X (FXa) then specifically cleaves the specific substrate SXa-11, releasing para-nitroaniline (pNA), which color is measured at 405nm. There is a direct relationship between color development and Factor X activity in the tested plasma.

REAGENTS:

R1: Reagent 1: SXa-11 substrate

Chromogenic substrate, specific for Factor Xa (SXa-11), lyophilized: 4 vials containing about 5mg of SXa-11 (to be reconstituted with **2.5 ml** of distilled water).

R2: Reagent 2: RVV.

Highly purified enzyme, extracted from the Russell’s viper venom, lyophilized in the presence of Calcium and stabilized; RVV in presence of calcium can specifically activate Factor X into Factor Xa.

4 vials (to be reconstituted with **2.5 ml** of distilled water).

R3: Reagent 3: Tris-NaCl buffer “10xconc.”

Ten fold concentrated Tris-NaCl buffer. Contains sodium azide. To be diluted **ten fold** with distilled water before use. 4 vials containing about 5 ml.

References

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Aniara
6560 Gove Ct.
Mason, Ohio 45040
Toll free: 866-783-3797
Phone: 513-770-1991
Fax: 513-573-9241



Aniara Nordica
Malmen 8 Strångstorp
64196 Katrineholm
Sweden
Phone: +4615027020
Fax: +001-513-573-9241