Removal of Heparin from Plasma

**PRINCIPLE**

Heparinase 1 (the active component of Hepzyme®) is specific for heparin, which it cleaves at multiple sites per molecule, producing oligosaccharides that have lost their antithrombotic activity. Hepzyme® is a purified bacterial heparinase 1 produced in *Flavobacterium heparinum*. It is able to remove up to 2 IU heparin per ml in plasma. Hepzyme® can be used to neutralize the effect of heparin in a sample, so that the underlying coagulation status can be assessed. It is particularly used in instances of heparin contamination.

**REAGENT**

Hepzyme®, a vial containing dried preparation of heparinase 1 with stabilizers

Manufacturer: Dade Behring

Storage: 4ºC

Stability: as per manufacturer’s expiry date. Each vial is used for one test patient only.

**METHOD**

1. Add 1.0 ml of platelet-poor citrated plasma to a vial of Hepzyme®.
2. Re-stopper and invert gently 5 to 10 times.
3. Leave at room temperature for 15 minutes.
4. Transfer to a 2 ml plastic sample cup, and allow a few moments for any bubbles to disappear.
5. Perform required test.

The thrombin time should be included to check that all the heparin has been successfully removed.

Tests should be performed as soon as possible (i.e. within testing guidelines for that procedure).
INTERPRETATION
This enzyme does not remove any clotting factors (unlike some of the alternative techniques for removing heparin), so substantial shortening of clotting times in APTT, thrombin time, or PT after treatment with hepzyme indicates that heparin was present. Both unfractionated heparin and low-molecular forms are degraded by this enzyme.