



Anti-Xa Assay

Measuring Unfractionated and Low Molecular Weight Heparin

September 26, 2017

CLINICAL USE

The ACL TOP Family uses an automated chromogenic assay to quantitatively determine unfractionated heparin and low molecular weight heparin activity in citrated plasma. This assay can be utilized to provide clinicians with a heparin drug level to assist with monitoring patient dosages. It is suggested that Anti-Xa testing for Low Molecular Weight Heparin be performed 4 hours after the dose of heparin is given, and after the 3rd and 4th doses to be sure the heparin is at a steady state concentration.

CLINICAL BACKGROUND

Heparin is one of the most frequently used antithrombotic drugs. The biological activity of the heparin compound resides in its ability to accelerate the inhibitory effect of antithrombin on coagulation proteases. On the ACL TOP, heparin is measured as a complex with antithrombin present in the sample. The concentration of the heparin complex is dependent on the availability of the patient's endogenous antithrombin.

Unfractionated heparin has routinely been monitored using aPTT; however the aPTT is not sensitive enough to measure the effects of low molecular weight heparin and can be impacted by many patient-dependent physiological variables. These variables can lead to under-anticoagulation or over-anticoagulation due to the inability to establish an accurate baseline for the aPTT. Studies show that patients with heparin levels managed by Anti-Xa had fewer incidents of recurrent venous thromboembolism and fewer bleeding complications than patients monitored by aPTT. Below is a table outlining some of the benefits using the Anti-Xa Assay for heparin monitoring:

ADVANTAGES	DISADVANTAGES
Can be used to measure low molecular weight as well as unfractionated heparin levels	Effected by hemolysis, icterus, and lipemia
Fewer monitoring tests	Must be processed within one hour of collection (plasma separated from cells)
Assists with achieving the therapeutic range sooner and maintaining the range longer	
Not susceptible to interference by acute phase reactants, Factor VIII or fibrinogen	
Not influenced by factor deficiencies found in liver disease or DIC	

THERAPEUTIC RANGES:

Unfractionated heparin: 0.3 – 0.7 IU/mL¹

Low Molecular Weight heparin: 0.6 – 1.0 IU/mL¹

Find Us on Facebook, LinkedIn and Google Plus!

2434 Interstate Plaza Drive, Hammond, IN 46324

toll free 800.937.5521 · phone 219.989.3700 · fax 219.989.3900

www.PCLAlverno.com



SPECIMEN REQUIREMENTS:

SPECIMEN:

3.2% Sodium Citrate Plasma

STABILITY:

Specimens must be spun within 1 hour of collection and are stable at room temperature for 4 hours. When testing cannot be completed in 4 hours, specimens should be double spun to ensure platelet poor plasma and frozen. Frozen samples kept at -70°C are stable for 6 months.

CAUSE FOR REJECTION:

Whole blood samples beyond 1 hour stability

Plasma samples beyond 4-hour collection time that are not aliquoted double spun, and frozen

Tubes not filled properly

Plasma samples not meeting the minimum volume of 500uL

Samples with hemolysis and icterus

TURNAROUND TIME

Testing will be performed 7 days a week

SOFT CODES*

HXA – Low Molecular Weight Heparin

HXAUF – Unfractionated Heparin

CPT CODE**

85520

1. Therapeutic ranges were adopted from the **Antithrombotic Therapy and Prevention of Thrombosis, 9th Ed: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines**. Chest 2012; 141(2)(Suppl):e24S-e43S

*Code in your EMR system may differ.

**CPT codes provided are for informational purposes only. Questions regarding coding should be directed to the payer.