
Lab Dept: Coagulation

Test Name: FONDAPARINUX

General Information

Lab Order Codes: FONDA

Synonyms: Arixtra

CPT Codes: 85520 – Heparin assay

Test Includes: Fondaparinux level reported in mcg/mL

Logistics

Test Indications: Fondaparinux is a synthetic anticoagulant with selective inhibition of activated factor X (factor Xa). Fondaparinux induces a conformational change in antithrombin and increases its affinity for factor Xa. Inhibition of factor Xa leads to decreased thrombin generation and thrombus development.

^Fondaparinux has a half-life of approximately 17 hours which allows once-daily dosing. It is almost completely excreted by the kidneys. Fondaparinux is approved for the prophylaxis and treatment of venous thromboembolic events.

Lab Testing Sections: Coagulation

Phone Numbers: MIN Lab: 612-813-6280

STP Lab: 651-220-6550

Test Availability: Daily, 24 hours

Turnaround Time: 2 hours

Special Instructions: N/A

Specimen

Specimen Type: Whole blood

Container: Light Blue top (Buffered Na Citrate 3.2%) tube

Draw Volume: 1.8 mL for 3 coagulation tests or less
2.7 mL for 4 coagulation tests or if factor assay is ordered

Processed Volume: Minimum: 0.1 mL plasma

Collection: A clean venipuncture is essential, avoid foaming.

Entire sample must be collected with a single collection, pooling of sample is unacceptable.

Capillary collection is unacceptable.

Patient's with a hemoglobin level >55% must have a special tube made to adjust for the hematocrit; contact the lab for a special collection tube.

Mix thoroughly by gentle inversion. Deliver immediately to the laboratory at room temperature via courier or pneumatic tube.

Off Campus Collection:

Specimens must be tested within 30 minutes of collection.
Do not refrigerate.

If specimens cannot be received at Children's lab within 30 minutes of collection, the sample must be centrifuged and ***platelet-poor plasma** removed from cells and transferred to an aliquot tube. Plasma must be received at Children's lab within 4 hours of collection OR frozen at 20 degrees Centigrade and delivered to lab on dry ice within 2 weeks.

***Validation of your lab's centrifuge for platelet poor plasma is required.**

Special Processing: Lab Staff: Samples should be centrifuged within 30 minutes of collection. Remove plasma, store in a plastic screw top vial. Store frozen if testing cannot be completed within 4 hours.

Patient Preparation: None

Sample Rejection: Improper tube; clotted sample; underfilled tube; mislabeled or unlabeled specimens

Interpretive

Reference Range: The therapeutic anti-Xa range for fondaparinux (arixtra) has not been established.

In patients treated with 2.5 mg fondaparinux daily, the peak steady-state and plasma concentration is on average 0.39-0.50 mcg/mL approximately 3 hours post dose and the minimum steady-state concentration is 0.14-0.19 mcg/mL.

In patients treated with 5.0 mg (body weight <50 kg), 7.5 mg (body weight 50-100 kg), and 10.0 mg (body weight >100 kg), fondaparinux once daily, the mean peak steady-state plasma concentration is approximately 1.20-1.26 mcg/mL and the mean steady-state plasma concentration is

approximately 0.46-0.63 mcg/mL.

(Arixtra Prescribing Information version 9/20/2013, GlaxoSmithKline, Research Triangle Park NC and Garcia, et al. Chest 2012, 141:e24s-e43s)

Critical Values:

N/A

Limitations:

The test cannot distinguish between fondaparinux unfractionated and low molecular weight heparin. The correct assay must be requested for the type of product the patient is receiving or the results will not be accurate.

Methodology:

Laboratory monitoring of fondaparinux is possible utilizing factor Xa inhibitory activity of the drug. Anti-Xa assay (used for monitoring heparin) is modified by using a standard curve constructed with fondaparinux.

References:

Collection, Transport and Processing of Blood Specimens for Coagulation Testing and Performance of Coagulation Assays (1991), 2nd edition, NCCLS Document H21-A2, Vol 11, No 23, December 1991
<http://ajcp.ascpjournals.org/content/132/4/608.full>

GlaxoSmithKline Product Monograph ARIXTRA® GlaxoSmithKline Inc, 7333 Missauga Road, Missauga Ontario, Canada L5N 6L4
<http://www.gsk.ca/english/docs-pdf/product-monographs/Arixtra.pdf>

The Reduced Anticoagulant Effect of Fondaparinux at Low Antithrombin Levels (2009) Copyright 2009 International Anesthesia Research Society
DOI: 10.1213/ande.0b013e3181ae94b0

Coagulation Assays and Anticoagulant Monitoring (2012)
ASH Education Program Book
http://asheducationbook.hematologylibrary.org/content/2012/1/460.full?sid=102a721f-110a-4b9a-88f1-4e937c000755_ys_and_anticoagulant_monitoring