

## Overview

### Useful For

Optimizing flecainide dosage

Assessing flecainide toxicity

Monitoring compliance

### Method Name

Liquid Chromatography Tandem Mass Spectrometry (LC-MS/MS)

### NY State Available

Yes

## Specimen

### Specimen Type

Serum Red

### Specimen Required

**Supplies:** Sarstedt Aliquot Tube, 5 mL (T914)

**Collection Container/Tube:** Red top (serum gel/SST are **not acceptable**)

**Submission Container/Tube:** Plastic vial

**Specimen Volume:** 1.5 mL

#### Collection Instructions:

1. Draw blood immediately before next scheduled dose.
2. Centrifuge and aliquot serum into a plastic vial within 2 hours of collection.

### Forms

If not ordering electronically, complete, print, and send a [Therapeutics Test Request](#) (T831) with the specimen.

### Specimen Minimum Volume

0.5 mL

### Reject Due To

Gross hemolysis	OK
Gross lipemia	OK
Gross icterus	OK

**Specimen Stability Information**

Specimen Type	Temperature	Time	Special Container
Serum Red	Ambient	28 days	
	Refrigerated (preferred)	28 days	
	Frozen	28 days	

**Clinical & Interpretive****Clinical Information**

Flecainide (Tambocor) is a Class I cardiac antiarrhythmic agent indicated for treatment of paroxysmal supraventricular dysrhythmia, paroxysmal atrial fibrillation/flutter, and life-threatening ventricular dysrhythmias. After oral administration, flecainide is almost completely absorbed and peak concentrations are attained in approximately 3 hours. The half-life averages approximately 20 hours but is widely variable (12 to 27 hours), and steady-state concentrations are typically achieved in approximately 5 days. Flecainide is eliminated from blood by hepatic metabolism, as well as renal clearance; significant changes in either organ system will cause impaired clearance. Common adverse effects include dizziness, visual disturbances, and dyspnea. Mild-to-moderate toxicity is associated with dizziness, visual disturbances, headache, nausea, fatigue, palpitations, and chest pain. Visual hallucinations and dysarthria may occur at toxic serum concentrations. Death can occur from hypotension, respiratory failure, and asystole.

**Reference Values**

Trough Value

0.2-1.0 mcg/mL: Therapeutic concentration

>1.0 mcg/mL: Toxic concentration

**Interpretation**

Flecainide is most effective in premature ventricular contractions suppression at serum concentrations in the range of 0.2 to 1.0 mcg/mL.

Serum concentrations above 1.0 mcg/mL are associated with a high rate of cardiac adverse experiences such as conduction defects or bradycardia.

**Cautions**

Specimens that are obtained from gel tubes or anticoagulate collections can cause assay interference.

**Clinical Reference**

1. Milone MC, Shaw LM. Therapeutic drugs and their management. In: Rifai N, Chiu RWK, Young I, Burnham CAD, Wittwer CT, eds. Tietz Textbook of Laboratory Medicine. 7th ed. Elsevier; 2023:420-453
2. Josephson ME, Buxton AE, Marchlinski FE. The tachyarrhythmias: tachycardias. In: Wilson JD, Braunwald E, Isselbacher KJ, et al, eds. Harrison's Principles of Internal Medicine. 12th ed. McGraw-Hill Book Company; 1991:915
3. Valdes R Jr, Jortani SA, Gheorghide M. Standards of laboratory practice: cardiac drug monitoring. National Academy of Clinical Biochemistry. Clin Chem. 1998;44(5):1096-1099

## Performance

### Method Description

Protein is precipitated from serum and following centrifugation the supernatant is diluted and analyzed by liquid chromatography tandem mass spectrometry.(Unpublished Mayo method)

### PDF Report

No

### Day(s) Performed

Monday through Friday

### Report Available

2 to 5 days

### Specimen Retention Time

14 days

### Performing Laboratory Location

Rochester

## Fees & Codes

### Fees

- Authorized users can sign in to [Test Prices](#) for detailed fee information.
- Clients without access to Test Prices can contact [Customer Service](#) 24 hours a day, seven days a week.
- Prospective clients should contact their account representative. For assistance, contact [Customer Service](#).

### Test Classification

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. It has not been cleared or approved by the US Food and Drug Administration.

### CPT Code Information

80181

### LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
FLEC	Flecainide, S	3638-4

Result ID	Test Result Name	Result LOINC® Value
9243	Flecainide, S	3638-4