

## Overview

### Useful For

Identifying the presence and type of crystals in body fluid

### Method Name

Compensated Polarized Light Microscopy

### NY State Available

Yes

## Specimen

### Specimen Type

Body Fluid

### Specimen Required

#### Specimen Required

**Specimen Type:** Synovial Fluid, Prosthetic Joint Fluid

**Container/Tube:** Lavender top (EDTA)

**Acceptable:** Green top (heparin)

**Specimen Volume:** 2 mL

**Specimen Type:** Bile Fluid

**Container/Tube:** Red top

**Specimen Volume:** 2 mL

**Specimen Type:** Bronchoalveolar Lavage (BAL)

**Container/Tube:** Body fluid container

**Specimen Volume:** 2 mL

**Specimen Type:** Pleural Fluid, Peritoneal Fluid, Pericardial fluid

**Container/Tube:**

Preferred: Body fluid container

Acceptable: Lavender top (EDTA) or Green top (heparin)

**Specimen Volume:** 2 mL

### Specimen Minimum Volume

0.5 mL

### Reject Due To

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

### Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Body Fluid	Refrigerated (preferred)		
	Ambient	24 hours	
	Frozen		

### Clinical & Interpretive

#### Clinical Information

Birefringent crystals are found in the synovial fluid of more than 90% of patients with acutely inflamed joints. Monosodium urate crystals are seen in gouty fluids and calcium pyrophosphate crystals are seen in chondrocalcinosis. The urates are usually needle-shaped, and the calcium crystals are often rhomboidal. Cholesterol crystals may also be observed.

#### Reference Values

None seen

If present, crystals are identified.

#### Interpretation

Positive identification of crystals provides a definitive diagnosis for joint disease.

#### Cautions

Powdered anticoagulants such as oxalate are themselves crystalline or may cause crystals to form; their use may cause false-positive results or mask the presence of synovial fluid crystals definitive for the disease.

#### Clinical Reference

Hussong JW, Kjeldsberg CR, eds: Kjeldsberg's Body Fluid Analysis. ASCP Press; 2015

### Performance

#### Method Description

The specimen is examined with a polarizing microscope with and without a first-order red compensator. Cholesterol crystals appear as bright, square or rectangular plates. Pyrophosphate crystals, rhomboidal, are weakly birefringent. Urate crystals are mainly needle-shaped and strongly doubly refractile; they may be found within leukocytes.(Hussong JW, Sorensen E, Perkins SL, et al: Laboratory methods. In: Hussong JW, Kjeldsberg CR, eds. Kjeldsberg's Body Fluid Analysis. ASCP; 2015:chap 2)

#### PDF Report

No

**Day(s) Performed**

Monday through Sunday

**Report Available**

1 day

**Specimen Retention Time**

1 week

**Performing Laboratory Location**

Mayo Clinic Laboratories - Rochester Main Campus

**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 has been cleared, approved, or is exempt by the US Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

**CPT Code Information**

89060

**LOINC® Information**

Test ID	Test Order Name	Order LOINC® Value
CRSBF	Crystal ID, BF	6825-4

Result ID	Test Result Name	Result LOINC® Value
CRYFT	Fluid Type	14725-6
CRYID	Crystal ID	6825-4
CRYCM	Comment	77202-0