

Don't Miss Myeloma: Recognize Early Symptoms, Order sFLC Testing



Primary care physicians play a critical role in the early diagnosis of myeloma. Early Serum Free Light Chain (sFLC) testing helps you catch light chain disorders before they progress, establish baselines for hematology, and confidently manage MGUS[‡] patients (a precursor to myeloma).

If your patient has unexplained hypercalcemia, bone pain, anemia, kidney dysfunction, neuropathy, and/or elevated ESR^{*}, guidelines^{4,5} (e.g., IMWG[†]) suggest ordering sFLC (along with serum protein electrophoresis (SPE) and immunofixation electrophoresis (IFE)) to rule out light chain plasma cell disorders.

Consider ordering an sFLC assay when the following symptoms, signs, or lab abnormalities are present⁶:

General / Constitutional

- Unexplained fatigue
- Unintentional weight loss
- Recurrent or persistent infections

Bone & Musculoskeletal

- Persistent unexplained bone pain (esp. back, ribs, hips)
- Atraumatic or low-impact fractures
- Osteopenia/osteoporosis out of proportion to age

Renal / Urinary

- Unexplained decline in kidney function
- Proteinuria with low/absent albumin (suggesting light chains)
- Chronic kidney disease without clear etiology

Hematologic Abnormalities

- Unexplained normocytic anemia
- Elevated ESR^{*} with normal CRP[^]
- Hypercalcemia of unclear cause

Neurological

- Peripheral neuropathy without diabetes or other clear explanation
- Bilateral carpal tunnel syndrome
- Autonomic dysfunction (orthostatic hypotension)

Cardiovascular / Systemic

- Unexplained heart failure with preserved ejection fraction
- Orthostatic hypotension
- New arrhythmias without structural heart disease

Gastrointestinal (GI) / Systemic

- Unintentional weight loss with GI symptoms
- Unexplained hepatomegaly
- Chronic unexplained diarrhea or constipation

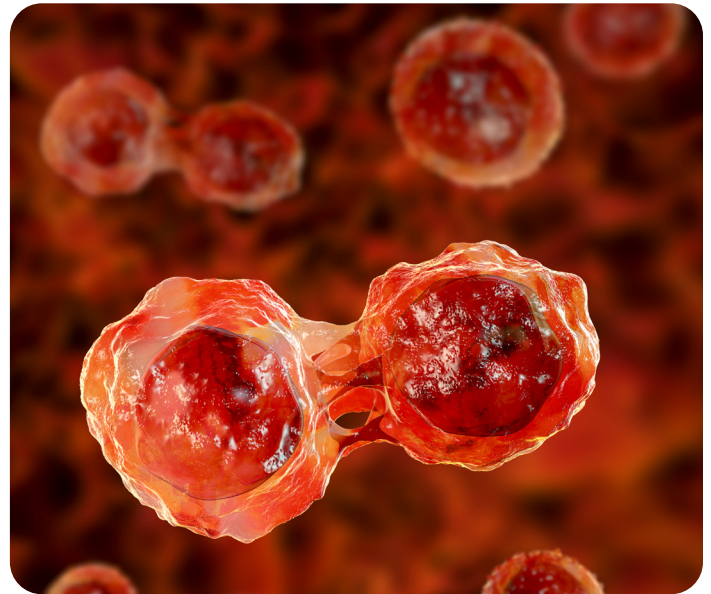
Clinical Situations Where sFLC Should Be Routinely Considered

- Suspicion of myeloma or MGUS workup
- Unexplained proteinuria or renal impairment
- Peripheral neuropathy of unknown origin

Serum Free Light Chains (sFLC) Testing

sFLC testing plays a critical role in the diagnosis and monitoring of multiple myeloma and related plasma cell disorders. It detects abnormal monoclonal protein production that may not be identified through traditional SPE alone. This test measures unbound kappa and lambda immunoglobulin light chains circulating in the blood.

By evaluating both absolute light chain levels and the kappa/lambda ratio, sFLC testing helps clinicians assess disease burden, monitor treatment response, and detect early relapse. It is particularly valuable in light chain myeloma and non-secretory myeloma, where conventional markers may be absent or difficult to interpret.



How to Order

sFLC testing requires a physician's requisition. A standard blood draw can be collected at a LifeLabs location. Results are reported directly to the ordering healthcare provider about 10 days from sample receipt at LifeLabs and should be interpreted alongside clinical findings and additional laboratory studies.

To receive sFLC, write *Serum Free Light Chains* in the 'Other Tests' section of the standard Ontario laboratory requisition.



Elevated tumor marker levels may indicate cancer activity, and are interpreted alongside imaging, pathology, and clinical findings rather than used alone for diagnosis. Levels may be elevated in non-cancerous conditions, trends over time are often more meaningful than a single measurement, and testing decisions should always be guided by a qualified healthcare professional.



Learn More about LifeLabs Cancer Tests: lifelabs.com/oncology

*ESR = Erythrocyte sedimentation rate, a blood test for inflammation that measures how quickly red blood cells settle at the bottom of a test tube.

**SPE = Serum protein electrophoresis; IFE = Immunofixation electrophoresis.

***EF = Ejection fraction, a measurement of how much blood the left ventricle pumps out with each heartbeat, an indicator of heart pumping efficiency.

†IMWG = International Myeloma Working Group.

‡MGUS = Monoclonal gammopathy of undetermined significance, a premalignant precursor to multiple myeloma.

^ACRP = C-reactive protein, a protein produced by the liver in response to acute inflammation.

References: 1. Drayton MT, Tang LX, Drew R, Mead GP, CarrSmith HD, Bradwell AR. Serum free light chain measurements for identifying and monitoring patients with nonsecretory multiple myeloma. *Blood*. 2001;97(9):2900-2902. doi:10.1182/blood.v97.9.2900 | 2. Katzmann JA, Clark RJ, Abraham RS, et al. Serum reference intervals and diagnostic ranges for free κ and free λ immunoglobulin light chains: relative sensitivity for detection of monoclonal light chains. *Clin Chem*. 2002;48(9):1437-1444. doi:10.1093/clinchem/48.9.1437 | 3. Kumar S, Paiva B, Anderson K et al. International Myeloma Working Group consensus criteria for response and minimal residual disease assessment in multiple myeloma. *The Lancet Oncology*. 2016; 17(8):e328-e346. doi:10.1016/S1470-2045(16)30206-6 | 4. Rajkumar SV. Multiple myeloma: 2024 update on diagnosis, risk-stratification, and management. *Am J Hematol*. 2024;99(9):1802-1824. doi:10.1002/ajh.27422 | 5. Bergstrom DJ, Kotb R, Louzada ML, Sutherland HJ, Tavoularis S, Venner CP, et al. Consensus guidelines on the diagnosis of multiple myeloma and related disorders: recommendations of the Myeloma Canada Research Network Consensus Guideline Consortium. *Clin Lymphoma Myeloma Leuk*. 2020;20(7):e352-e360. doi:10.1016/j.clml.2020.01.017 | 6. Dispenzieri A, Kyle RA, Merlini G, et al. International Myeloma Working Group guidelines for serum-free light chain analysis in multiple myeloma and related disorders. *Leukemia*. 2009;23(2):215-224. doi: 10.1038/leu.2008.307