

MEMORANDUM

TO: All Regional Medical Laboratory Clients

FROM: Adam Hoffhines, MD, Director of Flow Cytometry
Sonya D. Bruening, BS, MLT(AMT), Manager of Flow Cytometry

DATE: October 24, 2016

SUBJECT: Changes to Flow Cytometry Prognostic Markers for Chronic Lymphocytic Leukemia

Regional Medical Laboratory is discontinuing the measurement of ZAP-70 and CD38 by flow cytometry for cases of chronic lymphocytic leukemia/small lymphocytic lymphoma (CLL/SLL). Instead, CD49d expression will be measured on these cases. This change is effective October 31, 2016.

Studies show that CD49d is the most important flow cytometry-based prognostic indicator in chronic lymphocytic leukemia (more important than CD38 or ZAP-70 expression) (1, 2). CD49d expression is associated with shorter overall survival and shorter treatment-free survival (1). Also, CD49d expression has prognostic significance even among cases with IGHV hypermutation. CD49d-positive cases with IGHV-hypermutation show shorter time to first treatment than their CD49d-negative counterparts (2).

These changes will not affect how flow cytometric studies are ordered, but simply reflect an update to the methodology for prognostication in the flow cytometric evaluation for cases of chronic lymphocytic leukemia.

If you have questions or concerns, please feel free to contact either Dr. Adam Hoffhines at 918.744.3131, ext. 14155, Adam.Hoffhines@sjmc.org, or Sonya Bruening, Manager of Flow Cytometry at 918.744.3131 ext. 18213, Sonya.Bruening@sjmc.org.

REFERENCES:

- (1) Bulian, P, Shanafelt, TD, Fegan, C, et al. CD49d is the strongest flow cytometry-based predictor of overall survival in chronic lymphocytic leukemia. *J Clin Oncol* 32:897-904, 2012.
- (2) Baumann, T, Delgado, J, Santacruz, R, et al. CD49d (ITGA4) expression is a predictor of time to first treatment in patients with chronic lymphocytic leukemia and mutated IGHV status. *Brit J Haematol* 172:48-55, 2016.