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## Does CD5 have an effect on the expression of ROR1 in chronic lymphocytic leukemia?

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**Abstract:** B cell chronic lymphocytic leukemia (CLL) is characterized by accumulation of monoclonal CD5+ mature B cells. The expression of CD5 plays a role in the malignant behaviour of CLL cells via controlling the expression of some genes that enhance the expression of: Apoptosis inhibitors BCL-2, NF- $\kappa$ B, Wnt, and cytokine. By being naturally phosphorylated on tyrosines CD5 is chronically activated in CLL cells. Moreover, B CLL cell is also characterized by the expression of ROR1. In this study, we observed if CD5 has an effect on the surface expression of ROR1 in CLL cells by comparing the fluorescence intensity (MFI) of ROR1 between two groups of CLL cells, CD5 dim group and CD5 bright group.

**Materials:** A retrospective study of immune-phenotype results for 100 randomly selected patients diagnosed with CLL in the period from June 2012 till Jan 2014 was performed. 29 cases were excluded because ROR1 test was not performed for them. The study was carried out on 71 patients who were divided into two groups depending on the fluorescence intensity of CD5 [dim and moderate to bright MFI]. Four degrees of fluorescence intensity were assigned negative 0 cases, Dim 16 cases (23%), moderate and bright 55 cases (77%). Then, the average ROR1 MFI was compared between the two groups using Wilcoxon-Mann-Whitney test for independent samples with 95% confidence interval.

**Result:** The study showed that the average ROR1 MFI for CD5 dim group was 12.4 and 16.9 for CD5 moderate to bright group with a P- value of 0.003 which means a significant difference in the expression of ROR1 between the two groups.

**Conclusion:** The difference in the expression of ROR1 between the two groups might be due to the influence of CD5 on ROR1.

### Biography

Hessah Alsulami completed MRCPPath and did fellowship in Transfusion Medicine from University of Bristol in UK. She is the Director of Laboratory & Blood bank in IAAH.

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