

Ref. No.	:- FCM-19/2023	Date of Receiving	:- 28 th January, 2023
Patient's Name	:- Poonam Sharma	Date of Analysed	:- 28 th January, 2023
Age/Sex	:- 51 Y Female	MAX-ID	:- EHPG.1060130
Consultant/Unit	:- Self	Ward/OPD	:- OPD

Immunophenotyping Report FCM-19/2023

Clinical History:	Diagnosed outside as Plasmacytoma (kappa restriction), as details provided by clinician. Came here for myeloma evaluation.
Specimen type:	Bone marrow
Specimen Quality:	Adequate
Specimen Age:	Fresh sample (<24 hours old).
CD Markers used	CD45, CD19, CD20, CD38, CD56, CD81, CD117, CD138, CD200, cytoplasmic Kappa & lambda.
Lower limit of detection (LLOD)	0.001%
Lower limit of quantification (LLOQ)	0.002%
Instrument used	BD FACSLyric
Software	BD FACS Suite Software
Preparation	Bulk lysis-stain-wash
Total Cells acquired	25,00,000
Viable cells	17,79,692
Normal Plasma cells	0.4% of viable cells.
Events defining abnormal plasma cells	Nil
Descriptive summary	<p>8-colour flow cytometry. Gating done using CD45-side scatter, CD38-CD138 analysis with Boolean gating strategy to assess abnormal plasma cells.</p> <p>~2.5 million events were acquired with > 100 events in the plasma cell gate.</p> <p>On CD38-CD138 gating, ~0.4% normal polyclonal plasma cells are seen expressing CD38, CD138, CD81, dim heterogeneous CD200, while being negative for CD117, CD20, CD56.</p> <p>While all above plasma cells show same marker profile as mentioned above, there is heterogeneity with respect to CD19 with ~65% of these plasma cells expressing CD19 with kappa:lambda ratio of 1.5:1 (polyclonal) & ~35% plasma cells being negative for CD19* with kappa:lambda ratio of 3:1 (polyclonal).</p> <p>In addition, normal polyclonal B-lymphocytes, granulocytes, monocytes, mast cells and T-lymphocytes are present in their respective positions on CD45-SSC scattergram and are unremarkable for the marker profile used.</p>
DNA ploidy analysis (FxCycle Violet)	<i>DNA index (DI) of plasma cells 1.03 (diploid) with S-Phase Fraction of 0.5%.</i>
Conclusion	Flow cytometric immunophenotyping of bone marrow sample shows normal polyclonal plasma cells only. No abnormal/ clonal plasma cells identified.

* **Reference:** Flores-Montero J, Orfao A et al. Immunophenotype of normal vs. myeloma plasma cells: Toward antibody panel specifications for MRD detection in multiple myeloma. *Cytometry B Clin Cytom.* 2016 Jan;90(1):61-72. doi: 10.1002/cyto.b.21265. PMID: 26100534.

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