Lilac Insights™
passion • commitment • genetics

MC-4055

To: Dr. Kshitij Joshi - Mumbai
-
-
Mumbai- 400092
Maharashtra
Report Of: Mr. ASHOK RAJ BIRLA

Sample ID	:	2300122083	
Patient ID	:	1002347133	
Collected on	:	23-06-2023	
Received on	:	24-06-2023 10:00:00	
Reported on	:	01-07-2023 19:38:37	
Ref By	:	Dr. Kshitij Joshi - Mumbai	

MOLECULAR CYTOGENETICS (FISH) REPORT

Patient Name	:	**Mr. ASHOK RAJ BIRLA**	**Age**	:	**63 Years**
Physician Name	:	**DR. KSHITIJ JOSHI**	**Gender**	:	**Male**
Provisional Diagnosis	:	**?Plasma cell myeloma**	**Specimen Status**	:	**Ok**
Specimen Type	:	**Bone Marrow Aspirate (BMA)**	**Disease Status**	:	**N.A**
Test Requested	:	**Multiple Myeloma on purified plasma cells FISH, t(9;22) (*BCR-ABL1*) FISH**			

Test	:	**Multiple Myeloma on purified plasma cells OncoInsights™ FISH panel**
Test panel	:	Monosomy13/del(13q), *TP53* (17p) deletion, 1q amplification and 1p deletion, Trisomy 3, 7, 9 & 15, *IGH* (14q32) translocation Analysis.
Method	:	Isolation and purification of CD138 sorted plasma cells from bone marrow mononuclear cells, followed by Fluorescence in situ hybridization and analysis on plasma cells.
Probe panel	:	ZytoLight SPEC *CKS1B/CDKN2C* Dual Color, SPEC *RB1*/13q12 Dual Color Probe, SPEC *TP53* (17p13) / CEN 17 dual color, CEN 3, CEN 7, SPEC *IGH* Break Apart, Metasystem XL 5p15 / 9q22 / 15q22 Hyperdiploidy probe. Limit of Detection: Dual fusion probe: ≤1% , Break apart probe: 5%, Centromeric probe: 2% (trisomy), 5% (monosomy), LSI deletion probe: 5%, LSI Amp (1q): 3-5%
No. of Cells Analysed	:	200

Lilac Insights Pvt. Ltd. 301-302, Building A-1, Rupa Solitaire Millennium Business Park, MIDC Industrial Area, Sector-1, Navi Mumbai, Maharashtra 400710.
Phone: +91 22 41841438; Website: www.lilacinsights.com; For queries or complaints, please email: info@lilacinsights.com

Mr. ASHOK RAJ BIRLA Sample ID: 2300122083

Result:
***IGH* (14q32) translocation Analysis:**

***IGH* (14q32) Translocation**	***IGH* (Orange/Green)**	**5` *IGH* (Green)**	**3` *IGH* (Orange)**	**No. Cells**
Signal/s/Cell	2	0	0	200

Monosomy13/del(13q),*TP53* (17p) deletion,1q amplification and 1p deletion Analysis:

-13/del(13q)	**RB1 (13q14.2) (Orange)**	**13q12.11 (Green)**	**No. Cells**
Signal/s/Cell	2	2	200
17p deletion	***TP53* (Orange)**	**CEN 17(Green)**	**No. Cells**
Signal/s/Cell	2	2	200
1q amp/1p del	***CDKN2C*(1p32.2) (Green)**	***CKS1B*(1q21) (Orange)**	**No. Cells**
Signal/s/Cell	2	2	200

Trisomy 3, 7, 9 & 15 Analysis:

	Signal/s/Cells	**No. Cells**
CEN 3 (Orange)	2	200
XL 5p15 (Green)	2	200
CEN 7(Orange)	2	200
XL 9q22 (Aqua)	2	200
XL 15q22.3 (Orange)	2	200

Interpretation: Fluorescence in situ hybridization (FISH) showed no evidence of *IGH* translocation.
Signal pattern showed no evidence of monosomy 13/del(13q), 17p deletion, 1q gain/amplification and 1p deletion.
There was no evidence of hyperdiploidy.

IMPRESSION: Present case revealed no evidence of 13q deletion/monosomy 13, 17p deletion, 1q gain/amplification, 1p deletion , *IGH* translocations and hyperdiploidy.

Lilac Insights Pvt. Ltd. 301-302, Building A-1, Rupa Solitaire Millennium Business Park, MIDC Industrial Area, Sector-1, Navi Mumbai, Maharashtra 400710.
Phone: +91 22 41841438; Website: www.lilacinsights.com; For queries or complaints, please email: info@lilacinsights.com

References:

1. Fiona M. Ross, Herve Aveta A A Loiseau, Genevieve Ameye, Norma C. Gutierrez, et al. Report from th e European myeloma network on interphase FISH in multiple myeloma and related disorders Europea n Myeloma Network Report from the European myeloma network on interphase FISH in multiple myel oma and related disorders. Haematologica. 2012; 97:xxx doi:10.3324/haematol.2011.056176.
2. Pieter Sonneveld, Herve Avet-Loiseau, Sagar Lonial et al. Treatment of multiple myeloma with high-ri sk cytogenetics: a consensus of the International Myeloma Working Group. Blood. 2016;127(24):2955 -2962.
3. AJ Greenberg, S Philip, A Paner, S Velinova et al. Racial differences in primary cytogenetic abnormalities multiple myeloma: a multi-center study. Blood Cancer Journal (2015) 4, e271; doi:10.1 038/bcj.2014.91.
4. Kadam Amare PS, Jain H, Nikalje S, Sengar M, Menon H, Inamdar N, Subramanian PG, Gujral S, Sewth , T, Epari S, Nair R. Prevalence and clinico-pathological significance of various cytogenetic risk groups in multiple myeloma:the experience from India. Ind J Med Res , Indian J Med Res 144, pp 536-543, Oct ober 2016. DOI: 10.4103/0971-5916.200890.
5. Steven H. Swerdlow, Elias Campo, Stefano A. Pileri et al.The 2016 revision of the World Health Organi zation classification of lymphoid neoplasms. Blood. 127(20):2375-2390, 2016.
6. P. Amare (Kadam), Book Chapter “Cytogenetics and FISH: Clinico biologic implications in Multiple Mye loma. Book Plasma cell Malignancies. Eds Dr. MB Agarwal. Pp61-66, 2010, INDIA.
7. Pratibha Kadam Amare, Hemani Jain , Shraddha Nikhalje, ManjuSengar, Hari Menon , Nitin Inamdar , P. Subramaniam, Y. Badri, Reena Nair . Cytogenetic analysis helps identification of prognostic groups in multiple myeloma: the experience from India J Mol DiagnosticAb # H59,, vol 14, No. 6 , PP667 , 20 12.
8. Kadam Amare P, Nikalje Khasnis S, Hande P, Lele H, Wable N, Kaskar S, Nikam Gujar N, Gardi N, Prab hudesai A, Todi K, Waghole R, Roy P. Cytogenetic Abnormalities in Multiple Myeloma: Incidence, prog nostic significance and geographic heterogeneity in Indian and western population. Cytogenet Geno me Res. 2023 Feb 13. doi: 10.1159/000529191. Epub ahead of print. PMID: 36780889.

Prepared By : **AMRUTA PARKAR**
Verified By : **Pranita Pawar**

Lilac Insights Pvt. Ltd. 301-302, Building A-1, Rupa Solitaire Millennium Business Park, MIDC Industrial Area, Sector-1, Navi Mumbai, Maharashtra 400710.
Phone: **+91 22 41841438**; Website: **www.lilacinsights.com**; For queries or complaints, please email: **info@lilacinsights.com**

Dr. P. S. Kadam Amare
Oncogeneticist
Chief & Lab Director "Cancer & Clinical Genetics"
Lilac Insights Pvt. Ltd.

Dr. Hrushikesh Lele
Sr. Scientific Officer
Oncocytogenetics Dept.
Lilac Insights Pvt. Ltd.

- End of Report -

Conditions of Reporting/Disclaimer:

- The report relates only to the specimen submitted to the lab which was verified and confirmed at the time of specimen collection. Also it is presumed that the specimen belongs to the patient named or identified, such verification being carried out at the point of generation of the said specimen.
- Although Conventional karyotyping is a gold standard method of cytogenetics which gives a global whole genomic view of multiple known, unknown chromosomal abnormalities, small cryptic, subtle aberrations below 7-8 Mb resolution can be missed.
- In spite of known sensitivity and efficiency of the genetic test, the test results have to be correlated with other clinical and pathological finding for conclusive diagnosis and disease management.
- A test request may be revised or generated by Lilac geneticist with an intimation to an Oncologist if: 1) Incomplete requisition 2) After haematopathology Update.
- In 1-2 % of APL cases, FISH may turn out to be negative due to PML/RARA probe design which unable to detect cryptic insertion of PML to RARA. In such rare cases, It is advisable to check PML-RARA by molecular methods.
- In case of Multiple Myeloma, flowcytometry report indicating abnormal plasma cell population is important for reference, as small abnormal clones may get deduced as per limit of detection policy in FISH analysis.
- In case of FFPE FISH, if H & E stained slides &/or histopathology report is not provided by customer , LILAC proceed with H & E staining followed by histopathology remarks along with marking of tumor area by our consultant pathologist.
- Assays are performed in accordance with standard procedure on receipt. The reported results are dependent on individual assay methods, equipment used, method specificity, sensitivity and quality of specimen(s) received.
- Lilac Insights Pvt. Ltd. has policy to return the FFPE blocks within one month after final reporting with proper documentation of the dispatch of the block to customer from accession dept, Lilac. After dispatch, if there is no intimation from customer within two weeks, Lilac will not be responsible for the Dispatched FFPE block.
- Soft copies of oncocytogenetics reports are sent to customer by office mail ID. Also, Hardcopies are sent to customer only on the address provided by client.

Lilac Insights Pvt. Ltd. 301-302, Building A-1, Rupa Solitaire Millennium Business Park, MIDC Industrial Area, Sector-1, Navi Mumbai, Maharashtra 400710.
Phone: **+91 22 41841438**; Website: **www.lilacinsights.com**; For queries or complaints, please email: **info@lilacinsights.com**