MC-6043

To: Dr. Subhaprakash Sanyal - Mumbai
Fortis Hospitals Limited
Mulund Goregaon Link Road
Mumbai- 400078
Maharashtra
Report Of: GANESH MOKAL

Sample ID	:	2400089806
Patient ID	:	1002416797
Collected on	:	02-05-2024
Received on	:	03-05-2024 13:25:00
Reported on	:	11-05-2024 20:35:14
Ref By	:	Dr.Subhaprakash Sanyal - Mumbai

MOLECULAR CYTOGENETICS (FISH) REPORT

Patient Name	: **GANESH MOKAL**	**Age**	: **38 Years**
Physician Name	: **DR. SUBHAPRAKASH SANYAL**	**Gender**	: **Male**
Provisional Diagnosis	: **Acute lymphoblastic leukemia(ALL) - B cell**	**Specimen Status**	: **Ok**
Specimen Type	: **?BMA/PB**	**Disease Status**	: **N.A**
Test Requested	: **Ph1 like B-ALL FISH extended panel**		

Test	: **OncoInsights^{TM} Ph1 like B-ALL FISH extended panel**
Test panel	: *ABL1*::?, *ABL2*::?, CRLF2::?, *PDGFRB*::?, *JAK2*::?, *NUP214*::? translocation Analysis.
Method	: Direct culture of bone marrow aspirate/peripheral blood followed by interphase cells preparation, Fluorescence in situ hybridization on interphase cells.
Probe panel	: ZytoLight SPEC *ABL1* break apart, SPEC *ABL2* break apart, SPEC *CRLF2* break apart, SPEC *CSF1R* break apart, Kreatech *PDGFRB* (5q33) break apart, Metasystem *JAK2* break apart probe. Limit of Detection: Break Apart Probe: 5%
No. of Cells Analysed	: 200

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***ABL1*::?, *ABL2*::?, CRLF2::?, *PDGFRB*::?, *JAK2*::?, *NUP214*::? translocation Analysis:**

***ABL1*::? (9q34.12) translocation**	***ABL1* (Orange/Green)**	**5`*ABL1* (Green)**	**3`*ABL1* (Orange)**	**No. Cells**
Signal/s/Cells	2	0	0	200
***ABL2*::? (1q25) translocation**	***ABL2* (Orange/Green)**	**5`*ABL2* (Green)**	**3`*ABL2* (Orange)**	**No. Cells**
Signal/s/Cells	2	0	0	200
***PDGFR-B*(5q33.2) translocation**	***PDGFR-B* (Orange/Green)**	**5`*PDGFR-B* (Green)**	**3`*PDGFR-B* (Orange)**	**No. Cells**
Signal/s/Cells	2	0	0	200
CRLF2::? (Xp22.23 & Yp11.32)translocation	**CRLF2 (Orange/Green)**	**5`CRLF2 (Orange)**	**3`CRLF2 (Green)**	**No. Cells**
Signal/s/Cells	1	0	0	36/200
***JAK2*::?(9p24.1) translocation**	***JAK2* (Orange/Green)**	**5`*JAK2* (Green)**	**3`*JAK2* (Orange)**	**No. Cells**
Signal/s/Cells	2	0	0	200
***CSF1R*::(5q32) translocation**	***CSF1R* (Orange/Green)**	**5` *CSF1R* (Green)**	**3` *CSF1R* (Orange)**	**No. Cells**
Signal/s/Cells	2	0	0	200

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Interpretation: Fluorescence in situ hybridization (FISH) showed no evidence of *ABL1*::? translocation, *ABL2*::? translocation, *CRLF2*::? translocation, *PDGFRB*::?translocation, *JAK2*::? translocation and *CSF1R*::? translocation.

Signal pattern of CRLF2 showed *CRLF2* allelic loss (Freq. 18%).

Impression: Present case revealed *CRLF2* allelic loss.

No evidence of *ABL1*::? translocation, *ABL2*::? translocation, *CRLF2*::? translocation, *PDGFRB*::?translocation, *JAK2*::? translocation and *CSF1R*::? translocation which are common tyrosine kinase, cytokine, cytokine receptor genes rearrangements in Ph1 like ALL.

References:

1. K G. Roberts, Y. Li, D. Payne A, Turner, etal.Targetable Kinase-Activating Lesions in Ph-like Acute Lym phoblastic Leukemia .New engl J Med 371;11 nejm.org September 11, 2014.
2. Nitin Jain, Kathryn G. Roberts, Elias Jabbour, et al Ph-like acute lymphoblastic leukemia: a high-risk su btype in adults Blood;129(5):572-581, 2017.
3. Sarah K. Tasian, Mignon L. Lohand Stephen P. Hunger. Philadelphia chromosome-like acute lymphobl astic leukemia. Blood 130(19):2064-2072; 2017.
4. FANG-LIANG HUANG1,2, et al. Pathogenesis of pediatric B-cell acute lymphoblastic leukemia: Molecul ar pathways and disease treatments (Review).ONCOLOGY L 448 ETTERS 20: 448-454, 2020.

Prepared By : **Mahima Patil**
Verified By : **Shraddha Nikalje**

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- 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.

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