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SHIROMANI AWARD WINNER

Name	: Master Lakshya Kumar			Collected:	06-04-2016
				Received:	07-04-2016
Lab No.	: 124574966	Age	: 07 Years	Gender: Male	Reported: 12-04-2016
A/C Status	:	Ref by	: Dr. Sameer Bakshi		Report status: Final

Fluorescence in-situ Hybridization (FISH)

MLL Gene Break Apart Rearrangement Assay

Specimen : Bone Marrow.

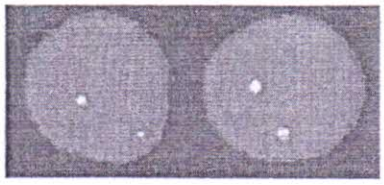
Clinical Indication : ? ALL.

Result : **nuc ish(5'MLL,3'MLL)×2(5'MLLcon 3'MLL×2)[200]**

: 200/200 (100%) interphase nuclei show normal 2Y fusion signals for MLL gene.

Interpretation : Specimen is negative for MLL gene rearrangement.

Interphase nuclei analyzed	Normal nuclei 2 Yellow signals	Abnormal nuclei 1 Orange 1 Green 1 yellow signals
200	200	00



Method: FISH analysis performed on 200 Interphase nuclei.

Probe : LSI MLL Dual color, Break Apart Rearrangement probe.

Comments: Translocations involving the mixed-lineage leukemia (MLL) gene located at chromosomal band 11q23 occur in both acute lymphocytic leukemia (ALL) and acute myeloid leukemia (AML). MLL rearrangements have been associated with a poor prognosis. The *MLL* gene at 11q23 is involved in a number of translocations with different partner chromosomes

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Fluorescence in-situ Hybridization (FISH)

BCR/ABL t(9;22) Translocation Assay

Specimen : Bone Marrow.

Clinical Indication : ? ALL.

Result : nuc ish(ABL×3)(BCR×2)[50/200]

: 50/200(25%) interphase nuclei show 3O 2G signals for BCR/ABL.

Interpretation : Specimen is negative for t(9;22)(q34;q11.2); however extra orange signals were observed in 25% cells. Kindly correlate with chromosomal analysis report.

Interphase nuclei analyzed	Normal nuclei 2 Orange 2 Green signals	Abnormal nuclei 3 Orange 2 Green
200	150	50

Cut off for the normal individual is 4%

Probe: Vysis LSI BCR/ABL1 Dual Color Single Fusion Probe.

Comments: t(9;22)(q34;q11.2) is the hallmark of almost all cases of Chronic Myeloid Leukemia (CML). In 5 to 10% of CML patients, the BCR/ABL gene fusion occurs in the absence of a cytogenetically detectable Ph chromosome as a result of more complex rearrangements. It is also seen in 25-30% cases of adult ALL and 2-5% of childhood ALL and is associated with an adverse outcome. It is rarely seen in other leukemias.

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Lab No.	: 124574966	Age	: 07 Years	Gender: Male	Reported: 12-04-2016
A/C Status	:	Ref by	: Dr. Sameer Bakshi		Report status: Final

Fluorescence in-situ Hybridization (FISH)

TCF3/PBX1 t(1;19) Translocation Assay

Specimen : Bone Marrow.

Clinical Indication : ?ALL.

Result : nuc ish(TCF3×2)(PBX1×2)[200/200].

: 200/200 (100%) interphase nuclei show 2O 2G signals for TCF3/PBX1.

Interpretation : Specimen is negative for t(1,19)(q23-p13.3).

Interphase nuclei analyzed	Normal nuclei 2 Orange 2 Green signals	Abnormal nuclei 1 Orange 1 Green 2 yellow
200	200	00

Cut off for the normal individual is 3%

Probe: LSI PBX1 (1q23)S .orange/LSI TCF3 (19p13.3) s.green, Vysis, Abbott Molecular Inc.

Comments: t(1;19), found in 25% of childhood B-ALL with cytoplasmic μ expression, fuses the transcription factor produced by *TCF3* at 19p13.3 with *PBX1* at 1q23.

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Lab No.	: 124574966	Age	: 07 Years	Gender: Male	Reported: 12-04-2016
A/C Status	:	Ref by	: Dr. Sameer Bakshi		Report status: Final

Fluorescence in-situ Hybridization (FISH)

TEL(ETV6)/AML1(RUNX1) or t(12;21)(p13;q22)

Specimen: Bone Marrow.

Clinical Indication: ? ALL.

Result: **nuc ish(ETV6×2),(RUNX1×4)[180/200]**

180/200(90%) interphase nuclei show 4O 2G signals for ETV6(TEL)/RUNX1(AML1).

Interpretation: Specimen is Negative for t(12;21)(p13;q22); however extra orange signals for RUNX1(AML1)(21q22) were observed in 80% cells. Kindly correlate with chromosomal analysis report.

Interphase nuclei analyzed	Normal nuclei 2 Orange 2 Green signals	Abnormal nuclei 4 Orange 2 Green
200	20	180

Cut off for the normal individual is 3%

Probe : Vysis LSI TEL(ETV6)(12p13) S. Green / LSI RUNX1(21q22) S. Orange Vysis, Abbott Molecular Inc.

Comments: The t(12;21)(p13;q22) chromosomal translocation is the most common chromosomal rearrangement in childhood acute lymphoblastic leukaemia resulting in the fusion of the 5' section of the ETV6(TEL) gene on chromosome 12p13 to almost the entire RUNX1 (AML1) gene on chromosome 21q22. This translocation is present in approximately 30% of childhood pre-B-ALL and 3–4% of adult ALL. t(12;21) cannot be detected by standard cytogenetics unless a more complex rearrangement is present. Therefore, FISH with probes for *TEL* and *AML1* provides a definitive diagnostic assay, as well as a means for treatment monitoring, for this subgroup of patients. Any patient diagnosed with pre-B-cell ALL should be studied with this test.

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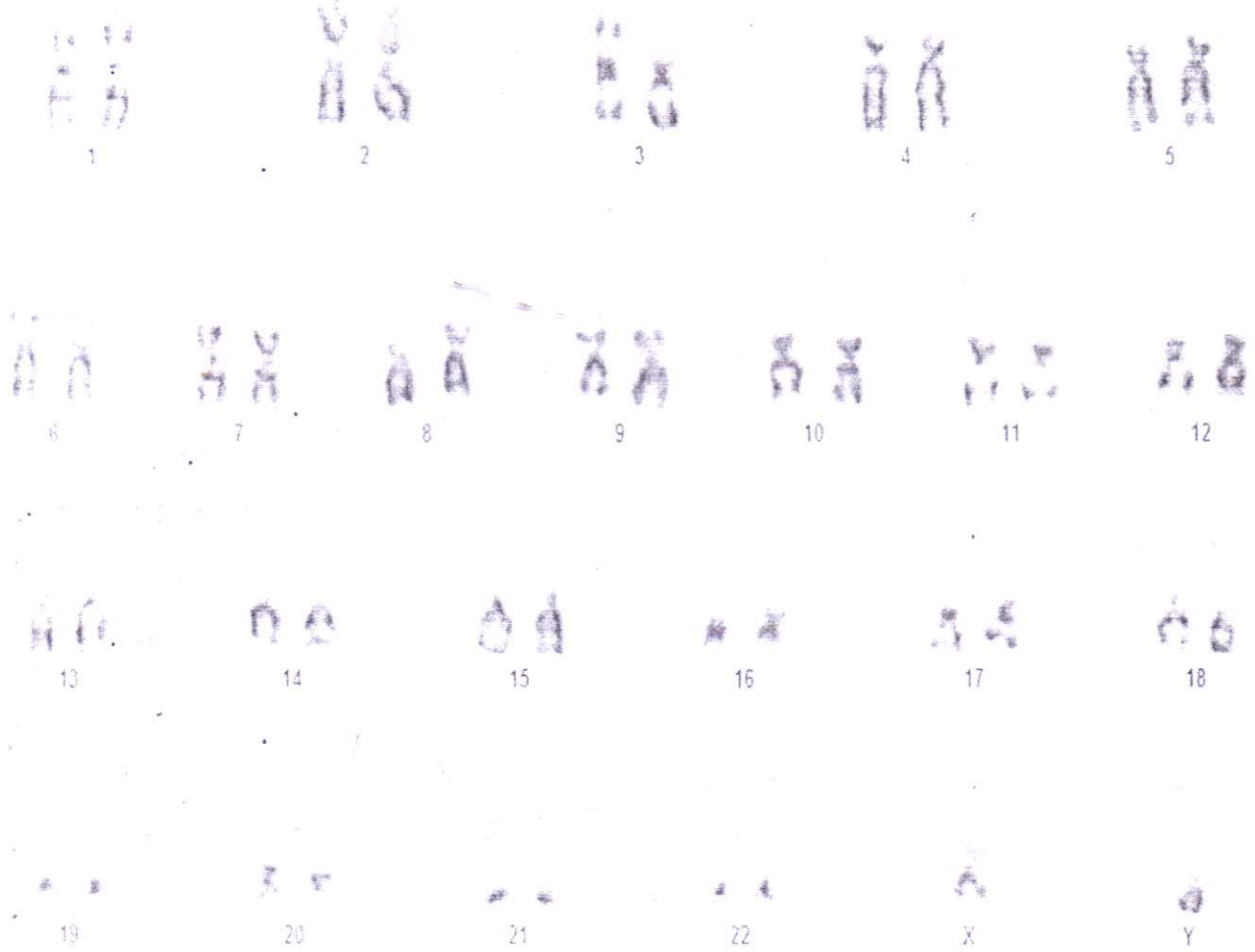
Lab No:	124574966	Reg.Date:	06.04.2016		
Rep Cen:	Yusuf Sarai			Ref.By: Dr Sameer Bakshi	
Coll.Date:	06.04.2016	Rec.Date:	07.04.2016	Rep.Date:	12.04.2016



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Dr. Sonika Sharma
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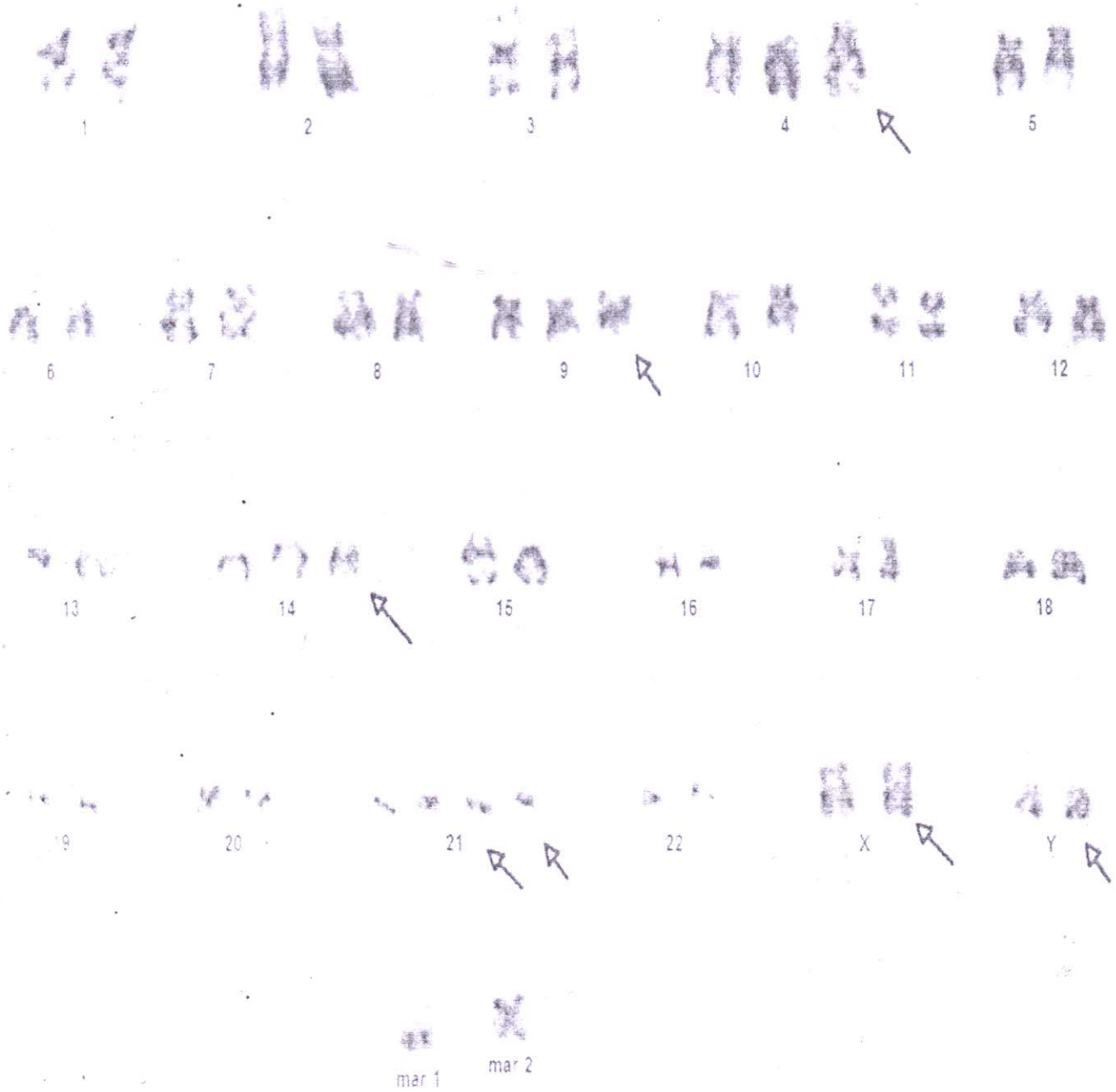

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Coll.Date:	06.04.2016	Rec.Date:	07.04.2016	Rep.Date:	12.04.2016

REPORT OF CHROMOSOME ANALYSIS FOR HEMATOLOGICAL MALIGNANCY

SPECIMEN	:	Bone marrow
INDICATION	:	? ALL
MEDIUM USED	:	RPMI – 1640, Hi-Karyol RPMI
METHOD	:	24-hr unstimulated cultures with appropriate serum and antibiotics.
BANDING RESOLUTION	:	450-550
BANDING TECHNIQUE	:	GTG (G bands by Trypsin and Giemsa)

CYTOGENETIC PROFILE:

Metaphases counted	:	20
Metaphases analysed	:	20
Metaphases karyotyped	:	02
Metaphases photographed	:	02

KARYOTYPE : 55,XY,+X+Y,+4,+9,+14,+21,+21,+mar1,+mar2[4]/46,XY[16]

INTERPRETATION

Four of the 20 metaphases analysed are abnormal and show high hyperdiploidy (chromosome number 55) with gains of several chromosomes as listed above along with two marker chromosomes of unknown origin. FISH analysis has also shown extra signals for chromosome 9 and 21. This is consistent with ALL. Kindly correlate these results with clinical and hematological findings.

KARYOGRAM ATTACHED

Dr.B.R.A IRCH, AIIMS, New Delhi.
Lab Oncology
A.I.I.M.S., New Delhi-110029
[illegible] -110029

UHID:	101739203	**Reg Date :**	02/04/2016 11:52 AM
Patient Name :	**Mr. LAKSHYA**		
Sex :	Male	**Age :**	7 years 17 days
Department :	DEPT. OF EMERGENCY MEDICINE	**Unit Name :**	Unit-I
Unit Incharge :	Dr. Y R Sharma	**Sample Collection Date:**	19/04/2016 09:38 AM
Lab Name:	Oncology Lab	**Lab Sub Centre:**	Lab Oncology (IRCH)
Sample Received Time:	19/04/2016 01:32 PM	Report Generated Date:	22/04/2016 12:23 PM
Dept / IRCH No:	186364	**Recommended By:**	Mr. nitin .
Lab Reference No:	2418		

Sample Details : LOI-190416035-PS (Blood)

PS

WBC :

N 3/10 L 6/10 E M 1/10 B Meta Myelo Pro

Blast Others

Cell Morphology

RBC: Neyt + Nehorm + Aniso + Micro Macro + Polk Elipto
Dachro Schisto Acantho

Crenat Sphero Blister Bite Hypo Target Polychr
Anisochrom Nucleated RBC

HJ Body Baso Stipl Cabot ring Parasite Rouleaux Agglutination
Others

PLATELETS: Reduced.

Notes: ALL on therapy

Signature Dr. Pranay Tanwar

Authorized Signatory