

Molecular Cytogenetics Facility

Contact Person: Dr. Manish Jain, Scientist

(Teaching Block, Second Floor, Room No. 2099)

Email: om_704@yahoo.co.in

Tel: 011-2659-4386

Test	Sample requirement	Approximate turnaround time	Cost (Rs.)
<p>Fluorescent In-Situ Hybridization (FISH)</p> <p>Microdeletion FISH</p> <ol style="list-style-type: none"> 1. DiGeorge/Velocardiofacial/ 22q11.2 microdeletion syndrome 2. Williams-Beuren syndrome 3. Wolff-Hirschhorn syndrome 4. Cri-du-chat syndrome 5. CMT-1A/ HNPP 6. Prader-Willi/Angelman Synd. 7. ATR-16 syndrome 8. APP (Alzheimer) <p>Aneuploidy FISH (preimplantation, prenatal, postnatal & oncologic application) Chromosome 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 14/22, 15, 16, 17, 18, 20, 22, X, Y</p> <p>Oncological FISH RB1, cMYC, HER2, ABL, BCR, BCL2, IGH, PML1, RARA, ETO, AML1, MYH11, etc</p> <p>Sex Chromosome FISH Post bone marrow transplantation (sex mismatched): engraftment status XX or XY disorder of sex development (Intersex)</p> <p>SRY gene FISH Intersex</p>	1 ml Heparinized & 1 ml EDTA blood in sterile condition	Indefinite As there is no technician/man power for the service Presently student & trainee are providing service	Free
STR/microsatellite PCR	All microdeletions All aneuploidies	1-2 days	Free
aCGH	Prenatal & preimplantation	5-7 days	under standardization

Sample Collection, Storage & Transportation

For FISH

1 ml Heparinized & 1 ml EDTA blood in sterile condition

Transport to laboratory within 24 hours

Storage temperature & transportation temperature (if more than 6 hours) preferably between 5-10 *C

Semen/mouth wash/urine samples are preferred to be collected on site (laboratory)

For STR/microsatellite PCR

2 ml EDTA blood (patient along with parents)

Research

PRINS (Primed In Situ Labeling)

1. Rapid Aneuploidy Diagnosis (Chromosome X,Y,13, 18 & 21)

FISH

1. XY FISH for Gonosomal Mosaicism
2. Yq microdeletion by STS (multiplex PCR based)
3. Preimplantation Genetic Diagnosis (Chromosome 1, 9, 16, 18, X, Y for Human and Chromosome X, Y, 19, 1 for Mouse)

Research & On Request

FISH with following clones from the BAC/PAC/YAC/Plasmid Library (vide table below)

BAC/PAC/YAC/ Plasmid Library (*On Request and/or Research Work*)

Alphoid/Repetitive Sequence

SN	Chromosome	Probe Type	Site	Clone type
01	X	Alphoid	Centromere	Plasmid
02	Y	Alphoid	Centromere	Plasmid
03	Y	Heterochromatic	qh	Plasmid
04	Y	pLAY113.5 (repetitive)	q12	Plasmid
05	1	Heterochroma	qh	Plasmid
06	2	Alphoid	Centromere	Plasmid
07	3	Alphoid	Centromere	Plasmid
08	4	Alphoid	Centromere	Plasmid
09	6	Alphoid	Centromere	Plasmid
10	7	Alphoid	Centromere	Plasmid
11	8	Alphoid	Centromere	Plasmid
12	9	Heterochroma.	qh	Plasmid
13	10	Alphoid	Centromere	Plasmid
15	11	Alphoid	Centromere	Plasmid
16	12	Alphoid	Centromere	Plasmid

17	14/22	Alphoid	Centromere	Plasmid
18	15	Alphoid	Centromere	Plasmid
19	16	Alphoid	Centromere	Plasmid
20	17	Alphoid	Centromere	Plasmid
21	18	Alphoid	Centromere	Plasmid
22	20	Alphoid	Centromere	Plasmid
23	21	Alphoid	Centromere	Plasmid
24	22	Alphoid	Centromere	Plasmid
25	NOR	Alphoid	Satellite	PAC
26	Pz/NOR	NOR regions (repeat seq)	Satellite	PAC

Locus Specific

1	1p36	Locus Sp.	RP11-199O1	BAC
2	1p36.12	„	RP5-1057J7	PAC
3	1p36.13	Locus Sp.	RP11-99C7	BAC
4	1p36.21	„	RP11-265F14	BAC
5	1p36.22	„	RP11-420G9	BAC
6	1P36.31	Locus Sp.	RP11-239H20	
7	1p36.32	„	RP11-447M5	BAC
8	1p36.33	Locus Sp.	bA421C4	BAC
9	1p36.33	„	RP5-902P8	PAC
10	2p24.3-p24.2	Locus Sp.	RP11-829H24	BAC
11	2p24.3	Locus Sp.	RP11-333O1	BAC
12	2p24.3	„	bA375P12	BAC
13	3p25.1	„	bA279L16	BAC
14	3q29	„	bA778E2	BAC
15	5p15.33	„	RP11-811I15	BAC
16	5p15.33	„	RP11-24P24	BAC
17	5p15.1	„	RP11-88L18	BAC
18	5p15.1	„	RP11-269O14	BAC
19	5p15.2	„	RP11-72C10	BAC
21	7p12.3	„	RP11-653O17	BAC
22	7p12.1	„	RP11-324M21	BAC
23	7q31.1	„	bA393L14	BAC
24	8p22	„	RP11-776K3	BAC
25	8q22	„	ETO	BAC
26	8q24.13	„	RP11-550A5	BAC
27	8q24.12	„	RP11-318N11	BAC
28	8q24.21	„	CMYC	BAC
29	8Q24.22	„	RP11-15L5	BAC
30	8q24.23	„	bA21D15	BAC
31	9p21.1	„	RP11-48L13	BAC
32	9p21.1	„	RP11-562M8	BAC
33	9p21.1	„	RP11-255N24	BAC
34	9p21.3	„	RP11-336O12	BAC

35	9p21.3	„	RP11-536F2	BAC
36	9p21.1	„	RP11-255N24	BAC
37	9p21.1	„	bA573M23	BAC
38	9q34	ABL1	dj1132H12	BAC
39	9q34.11	Locus Sp.	RP11-57C19	BAC
40	9q34.12	„	ABL1	BAC
41	9q34.3	„	bA417A4	BAC
42	10q23.2	„	RP11-396M20	BAC
43	11q22.3	„	RP11-563P16	BAC
44	11q25	„	bA209L12	BAC
45	12q13.12	„	RP11-60E8	BAC
46	12q24.33	„	bA112B19	BAC
47	13q14.2	Locus Sp. RB1	RP11-34F20	YAC, BAC
48	13q14.11	„	RP11-168P13	BAC
49	13q14.12	„	RP11-540M5	BAC
50	13q14.13	„	RP11-154C3	BAC
51	13q14.3	„	RP11-831J9	BAC
52	13q14.3	„	RP11-172A19	BAC
53	14q32.2	„	RP11-431B1	BAC
54	15q24.1	PML1	dj833D9	BAC
55	17P13.1	„	RP11-599B13	BAC
56	17q11.2	„	RP11-521P1	BAC
57	17q12	„	RP11-451O3	BAC
58	17q12	Locus Sp.	ERBB2	BAC
59	17q12	„	MLLT6	BAC
60	17q21.2	RARA	dj933I18	BAC
61	19q13.2	Locus Sp.	RP11-67A5	BAC
62	20p12.2	Locus Sp.	dj1098F8	BAC
63	20q12	„	RP1-81G23	
64	21	„	Down Synd.	YAC
65	21	„	ERG	BAC
66	21q21.3	„	RP11-14D13	BAC
67	21q22	AML1	dj1107L6	BAC
68	22q11.23	DG/VCF Synd	RP5-930L11	PAC
69	22q11.21	DG/VCF Synd	CTA-154H4	BAC
70	22q11.23	DG/VCF Synd	CTA-322B1	BAC
71	22q11.22	DG/VCF Synd	RP11-22M5	BAC
72	22q11.2	DG/VCF Synd		BAC
73	22q12.1-q12.2	Locus Sp.	RP11-945M21	BAC
74	22q13.1	Locus Sp.	RP11-455G13	BAC
75	22q13.32	Locus Sp.	RP5-925J7	PAC
76	Xp22.11	„	RP11-40P7	BAC
77	Xp22.11	„	RP5-1129A6	PAC
76	Xp22.12	„	RP11-450P7	BAC
79	Xp22.22	„	RP11-450G14	BAC

80	Xp22.31	Locus Sp.	bA483M24	BAC
81	Xp22.31	„	RP11-143E20	BAC
82	Xp22.32	„	RP11-615L18	BAC
83	Xp22.33	„	RP11-172A6	BAC
84	Xp22.33		RP11-131H1	BAC
85	Xq12	„	RP4-808O4	
86	Xq28	„	db228I21	BAC
87	Yp11.2	„	bA115J5	BAC
88	Yp11.2	„	bA145J112	BAC
89	Yp11.31	„	bA115E20	BAC
90	Yp12	„	RP11-115E20	BAC
91	Yq11.221	„	bA224C16	BAC
92	Yq11.223	„	bA256K9	BAC
93	Yq11.23	AZFb/AZFc	bA270H4	BAC
94	Yq12			

Microdeletion & Microduplication Syndrome

1	4p	Wolff Hischhorn	860 A13	BAC
2	5p	Cri-du-chat	RP5-982O4	PAC
3	5q35.1	Soto Region	RP11-117L6	BAC
4	5q35.3	Soto Region	RP11—305G6	BAC
5	7q11.23	William	RP5-1127A24	PAC
6	7q11.23 (16/6/08)	William	RP11-99J9	BAC
7	7q11.23 (15/5/08)	William	RP11-99J9	BAC
8	7q11.23	William	RP11-229D3	BAC
9	7q11.23	William	RP5-1090E20	PAC
10	7q11.23	William	RP5-1177A1	PAC
11	8q24.13	TRPS II	RP11-1082L8	BAC
12	15q11.2	PWS/AS	RP11-20B10	BAC
13	15q11.2	PWS/AS	RP11-26F2	BAC
14	15q12	PWS/AS	RP11-20B10	BAC
15	15q13.1	PWS/AS	RP11-37J13	BAC
16	15q13.3	PWS/AS	RP11-456J20	BAC
17	16p13.3	ATR-16	DJ471F17	PAC
18	17p11.2	CMT-1A/ HNPP	RP5-1004H15	PAC
19	17p11.2	Smith-Magenis	RP11-73L16	BAC
20	17p13.3	Miller-Dieker Syndro	RP11-235E17	BAC
21	17p13.3 (16/6/08)	Miller-Dieker Syndro	RP11-22G12	BAC
22	17p13.3 (15/5/08)	Miller-Dieker Syndro	RP11-22G12	BAC
23	17p13.3	Miller-Dieker Syndro	RP5-1029F21	PAC
24	21q21.3	Alzhemier	RP11-14D13	BAC
25	22q11.2	DiGeorge	dj882J5	PAC
26	Yp11.31 (Xp faint)	SRY	RP11-400O10	BAC

Chromosome Paints

1	Y	Paint	Whole	Flow sorte
2	X	Paint	Whole	Flow sorte
3	Yq	Paint	Partial	Micro diss
4	Xq	Paint	Partial	Micro diss
5	Xp	Paint	Partial	Micro diss

Mouse Clones

SN	Chromosome	Clone type	Site
1	19	PAC	RP21-607E15
2	X	PAC	RP21-480L23
3	1	PAC	RP21-480G1
4	1-19	alphoid	Pancentromere
5	Y	Hetrochromatic	M34 clone
6	19	BAC	Centromere
7	19	BAC	Telomere
8	X	BAC	Centromere
9	X	BAC	Telomere
10	X	BAC	Centromere