



	Condition	OMIM#	Gene/ Locus	Location
1	1p36 Microdeletion *	607872	Multiple	1p36
2	1q21.1 Distal microdeletion *	612474	Multiple ACP6 candidate GJA5 candidate GJA8 candidate	1q21.1-q21.2
3	1q21.1 Microdeletion with susceptibility for thrombocytopenia-absent radius (TAR)	274000	Multiple	1q21.1
4	1q41-q42 Microdeletion/Fryns	612530/229850	Multiple	1q41-q42
5	1q44 Microdeletion	612337	Multiple AKT3 candidate	1q44
6	2p15-p16.1 Microdeletion	612513	Multiple	2p15-p16.1
7	2p16.3 Microdeletion/Pitt-Hopkins-like 2 *	600565	NRXN1	2p16.3
8	2p21 Microdeletion, autosomal recessive	606407	Multiple	2p21
9	2q23.1 Microdeletion		MBD5 EPC2	2q23.1
10	2q32.2-q33 Microdeletion	119540	Multiple SATB2 candidate	2q33.1
11	3q29 Microdeletion	609425	Multiple	3q29
12	3q29 Microduplication *	611936	Multiple	3q29
13	5p13.2 Microduplication *	613174	NIPBL	5p13.2
14	5q35.2-q35.3 Microduplication *		NSD1	5q35.2-q35.3
15	6p25.3 Microdeletion	612582	Multiple	6p25.3
16	6q24.3 Microdeletion	612863	Multiple	6q24.3

17	6q25.2-q25.3 Microdeletion	612863	Multiple	6q25.2-q25.3
18	7q11.23 Microduplication *	609757	Multiple	7q11.23
19	8p23.1 Microdeletion/Congenital diaphragmatic hernia 2 (CDH2)	222400	Multiple GATA4 candidate	8p23.1
20	8p23.1 Microduplication *		Multiple GATA4 candidate	8p23.1
21	8q12 Microduplication *		Multiple CHD7 candidate	8q12.1-q12.3
22	9q22.32-q22.33 Microdeletion		Multiple TGFB1 candidate GABBR2 candidate	9q22.32- q22.33
23	9q34 Microdeletion/Kleefstra *	610253	EHMT1	9q34.3
24	10q22.3-q23.31 Microdeletion		Multiple	10q23.1- q23.2
25	12q14.1-q15 Microdeletion *		Multiple LEMD3 candidate GRIP1 candidate HMGA2 candidate	12q14.3-q15
26	12q14.3-related primordial dwarfism/Russell-Silver-like		HMGA2	12q14.3
27	12q24.21-q24.23 Microduplication *		Multiple	12q24.21- q24.23
28	14q11.2 Microdeletion		Multiple CHD8 candidate SUPT16H candidate	14q11.2
29	14q12 Microduplication *	164874	Multiple FOXG1 candidate	14q12
30	14q22-q23 Microdeletion		Multiple	14q22-q23
31	14q32.2 Microdeletion causing upd(14)mat phenotype		Multiple DLK1 candidate RTL1 candidate	14q32.2
32	14q32.2 Microdeletion causing upd(14)pat phenotype	608149	Multiple MEG3 candidate MEG8 candidate RTL1 candidate	14q32.2
33	15q11-q13 Microduplication *	608636	Multiple	15q11-q13

34	15q13.3 Microdeletion *	612001	Multiple CHRNA7 candidate	15q13.3
35	15q24.1-q24.2 Microdeletion	613406	Multiple	15q24.1- q24.2
36	15q24.1-q24.2 Microduplication *	613406	Multiple	15q24.1- q24.2
37	16p11.2 Microdeletion *	611913	Multiple	16p11.2
38	16p11.2-p12.2 Microdeletion *	613604	Multiple	16p11.2- p12.2
39	16p12.1 Microdeletion		Multiple CDR2 candidate EEF2K candidate UQCRC2 candidate	16p12.2
40	16p13.11 Microdeletion *		Multiple	16p13.1
41	16p13.3 Microdeletion/Severe Rubinstein-Taybi	610543	Multiple CREBBP	16p13.3
42	16p13.3 Microduplication *	613458	CREBBP	16p13.3
43	16q11.2-q12.2 Microdeletion		Multiple SALL1 candidate ZNF423 candidate	16q11.2- q12.1
44	17p13.1 Microdeletion	613776	Multiple TP53	17p13.1
45	17p13.3 Distal microdeletion		YWHAE CRK	17p13.3
46	17p13.3 Distal microduplication, not including lissencephaly region (PAFAH1B1) *	613215	YWHAE CRK	17p13.3
47	17p13.3 Proximal microduplication, including lissencephaly region (PAFAH1B1) *	613215	PAFAH1B1 (LIS1) YWHAE CRK	17p13.3
48	17q12 Microduplication *		Multiple HNF1B candidate LHX1 candidate	17q12
49	17q21.31 Microdeletion	610443	Multiple MAPT candidate	17q21.31
50	17q21.31 Microduplication *	613533	Multiple	17q21.31
51	17q23.1-q23.2 Microdeletion *	613355	Multiple TBX2 candidate TBX4 candidate	17q23.1- q23.2

52	19q13.11 Microdeletion	613026	Multiple LSM14A candidate UBA2 candidate	19q13.11
53	22q11.2 Distal microdeletion *	611867	Multiple	22q11.2
54	22q11.21 Microduplication *	608363	Multiple TBX1 candidate	22q11.21
55	22q13.3 Microdeletion *	606232	Multiple SHANK3 candidate	22q13.3
56	Xp11.22-p11.23 Microduplication *	300801	Multiple	Xp11.22- p11.23
57	Xp11.22-linked intellectual disability/Mental retardation 17, X-linked/Mental retardation 31, X-linked *	300705	Multiple HSD17B10 candidate HUWE1 candidate	Xp11.22
58	Xp11.3 Microdeletion	300578	Multiple RP2 candidate ZNF674 candidate	Xp11.23- p11.3
59	Xp11.4-p21.2 Contiguous gene deletion		Multiple IL1RAPL1 OTC	Xp11.4- p21.3
60	Xq28 Microduplication *	300815	Multiple GDI1 candidate IKBKG candidate	Xq28
61	Adrenal hypoplasia congenita, X-linked (AHC)	300200	NR0B1	Xp21.2
62	Agammaglobulinemia, X-linked/Bruton agammaglobulinemia, X-linked	300755	BTK	Xq22.1
63	Alagille	118450	JAG1	20p12.2
64	Albright hereditary osteodystrophy-like/Brachydactyly with intellectual disability/2q37 Microdeletion	600430	HDAC4	2q37.3
65	Alpha thalassemia with intellectual disability (AT-ID)	141750	Multiple HBA1 HBA2 SOX8 candidate	16p13.3
66	Alport, X-linked (ATS)	301050	COL4A5	Xq22.3
67	Alport plus diffuse leiomyomatosis, X-linked (ATS-DL)	301050	COL4A5 COL4A6	Xq22.3
68	Androgen insensitivity, X-linked	300068	AR	Xq12
69	Angelman	105830	UBE3A	15q11.2
70	Aniridia II	106210	PAX6	11p13

71	ANKRD11 haploinsufficiency/16q24.3 Microdeletion		ANKRD11	16q24.3
72	Atrial septal defect (ASD) with atrioventricular conduction defects	108900	NKX2-5	5q35.1
73	Autism with intellectual disability, SHANK2-related	613436	SHANK2	11q13.3-q13.4
74	Bannayan-Riley-Ruvalcaba (BRRS)/PTEN hamartoma tumor	153480	PTEN	10q23.31
75	Basal cell nevus/Gorlin-Goltz	109400	PTCH1	9q22.32
76	Beckwith-Wiedemann, IGF2-related *	130650	IGF2	11p15.5
77	Beckwith-Wiedemann, KCNQ1OT1-related	130650	KCNQ1OT1	11p15.5
78	Benign neonatal epilepsy	121200	KCNQ2	20q13.33
79	Beta thalassemia	141900	HBB	11p15.4
80	Bilateral frontoparietal polymicrogyria, autosomal recessive (BFPP)	606854	GPR56	16q21
81	Blepharophimosis, ptosis epicanthus inversus (BPE)	110100	FOXL2	3q22.3
82	Boston-type craniosynostosis/Craniosynostosis type 2 *	604757	MSX2	5q35.2
83	Branchio-oto-renal (BOR)/Melnick-Fraser	113650	EYA1	8q13.3
84	Campomelic dysplasia (CMPD)	114290	SOX9	17q24.3
85	Cat-eye *	115470	Multiple	22q11.1-q11.21
86	Cerebellar hypoplasia, VLDLR-related, autosomal recessive/Hutterite dysequilibrium, autosomal recessive	224050	VLDLR	9p24.2
87	Cerebral cavernous malformations, type 1 (CCM1)	116860	KRIT1	7q21.2
88	Cerebral cavernous malformations, type 2 (CCM2)	603284	CCM2	7p13
89	Cerebral cavernous malformations, type 3 (CCM3)	603285	PDCD10	3q26.1
90	CHARGE	214800	CHD7	8q12.1-q12.2
91	Chondrodysplasia 1, X-linked (CDPX1)	302950	ARSE	Xp22.33
92	Choroideremia, X-linked	303100	CHM	Xq21.2
93	Chronic granulomatous disease, X-linked	306400	CYBB	Xp11.4
94	Cleidocranial dysplasia (CCD)	119600	RUNX2	6p21.1
95	Cohen, autosomal recessive *	216550	VPS13B	8q22.2
96	Congenital diaphragmatic hernia (CDH)	142340	Multiple CHD2 candidate NR2F2 candidate	15q26.1-q26.3
97	Congenital hemidysplasia with ichthyosiform erythroderma & limb defects (CHILD)	308050	NSDHL	Xq28
98	Cornelia de Lange/Brachmann-de Lange	122470	NIPBL	5p13.2
99	Cowden/PTEN hamartoma tumor	158350	PTEN	10q23.31
100	Craniofrontonasal, X-linked	304110	EFNB1	Xq13.1

101	Cri-du-chat	123450	Multiple TERT candidate CTNND2 candidate	5p15.2- p15.33
102	Currarino	176450	MNX1	7q36.3
103	Dandy-Walker malformation (DWM)	220200	Multiple ZIC1 candidate ZIC4 candidate	3q23-q25.1
104	Deafness 22, autosomal recessive	607039	OTOA	16p12.2
105	Diamond-Blackfan anemia 1	105650	RPS19	19q13.2
106	DiGeorge/Velocardiofacial (VCF)/22q11.21 Microdeletion	188400/	TBX1	22q11.21
107	DiGeorge 2	601362	Multiple	10p14
108	Dopa-responsive dystonia (DRD)/Segawa	128230	GCH1	14q22.2
109	Dosage-sensitive sex reversal, X-linked *	300018	NR0B1	Xp21.2
110	Early-onset ataxia with oculomotor apraxia & hypoalbuminemia, autosomal recessive	208920	APTX	9p21.1
111	Emery-Dreifuss muscular dystrophy, X-linked (EDMD)	181350	EMD	Xq28
112	EPHA7 haploinsufficiency/6q16.1 Microdeletion		EPHA7	6q15-q16.1
113	Epilepsy & intellectual disability restricted to females, X-linked/Juberg-Hellman, X-linked/Dravet-like, X-linked	300088	PCDH19	Xq22.1
114	Epileptic encephalopathy, SCN2A-related *	613721	SCN2A	2q24.3
115	Epileptic encephalopathy, STXBP1-related	612164	STXBP1	9q34.11
116	Faciogenital dysplasia, X-linked/Aarskog-Scott, X-linked	305400	FGD1	Xp11.22
117	Familial adenomatous polyposis with intellectual disabilities (FAP-ID)/5q22 Microdeletion	175100	APC	5q22.2
118	Feingold	164280	MYCN	2p24.3
119	FMR1 microdeletion, X-linked	300624	FMR1	Xq27.3
120	Focal dermal hypoplasia, X-linked/Goltz, X-linked	305600	PORCN	Xp11.23
121	GLUT1 deficiency	606777	SLC2A1	1p34.2
122	Glycerol kinase deficiency, X-linked (GKD)	300474	GK	Xp21.2
123	Greig cephalopolysyndactyly	175700	GLI3	7p14.1
124	Growth hormone insensitivity, autosomal recessive/Laron, autosomal recessive	262500	GHR	5p12-p13.1
125	Hemophilia A, X-linked	306700	F8	Xq28
126	Hemophilia B, X-linked	306900	F9	Xq27.1
127	Hereditary hemorrhagic telangiectasia, type 1/Osler-Rendu-Weber	187300	ENG	9q34.11

128	Hereditary hemorrhagic telangiectasia, type 2	600376	ACVRL1	12q13.13
129	Hereditary paraganglioma-pheochromocytoma, SDHB-related	115310	SDHB	1p36.13
130	Hereditary paraganglioma-pheochromocytoma, SDHD-related	168000	SDHD	11q23.1
131	Heterotaxy, X-linked	306955	ZIC3	Xq26.3
132	Hirschsprung, EDNRB-related	600155	EDNRB	13q22.3
133	Hirschsprung, RET-related	142623	RET	10q11.21
134	Holoprosencephaly 1	236100	Multiple TRAPPC10 candidate PWP2 candidate	21q22.3
135	Holoprosencephaly 2	157170	SIX3	2p21
136	Holoprosencephaly 3	142945	SHH	7q36.3
137	Holoprosencephaly 4	142946	TGIF1	18p11.31
138	Holoprosencephaly 5	609637	ZIC2	13q32.3
139	Holoprosencephaly 8	609408	Multiple	14q13.1-q13.3
140	Holt-Oram *	142900	TBX5	12q24.21
141	Hydrocephalus and nephrogenic diabetes insipidus, X-linked		L1CAM AVPR2	Xq28
142	Hyper-IgE recurrent infection, autosomal recessive	243700	DOCK8	9p24.3
143	Hypohidrotic ectodermal dysplasia, X-linked (XHED)	305100	EDA	Xq13.1
144	Hypoparathyroidism, sensorineural deafness, renal disease (HDR)	146255	GATA3	10p14
145	Hypospadias 2, X-linked	300758	MAMLD1	Xq28
146	Hypotonia-cystinuria, autosomal recessive	606407	SLC3A1 PREPL	2p21
147	Idiopathic short stature, X- & Y-linked (ISSX)	300582	SHOX	Xp22.33 & Yp11.32
148	Infantile hyperinsulinism with enteropathy & deafness, autosomal recessive	606528	USH1C ABCC8	11p15.1
149	Infantile spasms, CDKL5-related, X-linked/Atypical Rett, CDKL5-related, X-linked	300672	CDKL5	Xp22.13
150	Infantile spasms, MAGI2-related		MAGI2	7q21.11
151	Intellectual disability with cerebellar hypoplasia & distinctive facial appearance, X-linked/Mental retardation 60, X-linked *	300486	OPHN1	Xq12
152	Intellectual disability with isolated growth hormone deficiency, X-linked *	300123	SOX3	Xq27.1
153	Intellectual disability with language impairment and autistic features	613670	FOXP1	3p13

154	Intellectual disability with microcephaly & disproportionate pontine and cerebellar hypoplasia, X-linked	300749	CASK	Xp11.4
155	Intellectual disability with stereotypical movements, epilepsy, and/or cerebral malformations/5q14.3 Microdeletion	613443	MEF2C	5q14.3
156	Jacobsen/11q terminal deletion	147791	Multiple	11q23-q25
157	Joubert 4, autosomal recessive	609583	NPHP1	2q13
158	Juvenile polyposis (JPS), BMPR1A-related	174900	BMPR1A	10q23.2
159	Juvenile polyposis (JPS), SMAD4-related	174900	SMAD4	18q21.2
160	Kallmann 1, X-linked	308700	KAL1	Xp22.31
161	Langer-Giedion/Trichorhinophalangeal type II	150230	TRPS1 EXT1	8q23.3 8q24.11
162	Langer mesomelic dysplasia, X- & Y-linked (LMD)	249700	SHOX	Xp22.33 & Yp11.32
163	Leri-Weill dyschondrosteosis, X- & Y-linked (LWD)	127300	SHOX	Xp22.33 & Yp11.32
164	Lesch-Nyhan, X-linked (LNS)	300322	HPRT1	Xq26.2- q26.3
165	Li-Fraumeni 1 (LFS)	151623	TP53	17p13.1
166	Lissencephaly, X-linked	300067	DCX	Xq23
167	Lissencephaly 1	607432	PAFAH1B1 (LIS1)	17p13.3
168	Lowe, X-linked	309000	OCRL	Xq25-q26.1
169	Lymphoproliferative, X-linked (XLP)	308240	SH2D1A	Xq25
170	Marfan 1 (MFS1)	154700	FBN1	15q21.1
171	McLeod neuroacanthocytosis, X-linked	314850	XK	Xp21.1
172	Menkes, X-linked (MNK)	309400	ATP7A	Xq21.1
173	Mental retardation 1, autosomal dominant (MRD1)	156200	MBD5	2q23.1
174	Mental retardation 5, autosomal dominant	612621	SYNGAP1	6p21.32
175	Mental retardation 6, autosomal recessive	611092	GRIK2	6q16.3
176	Mental retardation 7, autosomal recessive	611093	TUSC3	8p22
177	Mental retardation 9, X-linked/Mental retardation 44, X-linked	309549	FTSJ1	Xp11.23
178	Mental retardation 21, X-linked/Mental retardation 34, X-linked	300143	IL1RAPL1	Xp21.2- p21.3
179	Mental retardation 94, X-linked *	300699	GRIA3	Xq25
180	Mesomelic dysplasia Kantaputra type *	156232	Multiple HOXD gene cluster candidate	2q31.1
181	Metachromatic leukodystrophy, autosomal recessive (MLD)/Arylsulfatase A deficiency	250100	ARSA	22q13.33
182	Microphthalmia 3	206900	SOX2	3q26.33



183	Microphthalmia 7 with linear skin defects, X-linked	309801	HCCS	Xp22.2
184	Miller-Dieker	247200	PAFAH1B1 (LIS1)	17p13.3
185	Mohr-Tranebjaerg, X-linked/Deafness-dystonia-optic neuropathy, X-linked (DDON)	304700	TIMM8A	Xq22.1
186	Mowat-Wilson *	235730	ZEB2	2q22.3
187	Myoclonus dystonia	159900	SGCE	7q21.3
188	Myotubular myopathy 1, X-linked	310400	MTM1	Xq28
189	Nablus mask-like facial	608156	Multiple	8q22.1
190	Nail-patella (NPS)	161200	LMX1B	9q33.3
191	Neonatal hemolytic anemia associated with hemoglobin beta cluster/Epsilon-gamma-delta-beta-thalassemia	141900	Hemoglobin beta gene cluster	11p15.4
192	Nephronophthisis 1, autosomal recessive	256100	NPHP1	2q13
193	Nephropathic cystinosis, autosomal recessive	219800	CTNS	17p13.2
194	Neurofibromatosis 1 with intellectual disabilities (NF1-ID) *	613675	NF1	17q11.2
195	Neurofibromatosis 2 (NF2)	101000	NF2	22q12.2
196	Neurosensory deafness, autosomal recessive (DFNB1)	220290	GJB6	13q12.11
197	NFIA haploinsufficiency/1p31.3 Microdeletion	613735	NFIA	1p31.3
198	Norrie, X-linked *	310600	NDP	Xp11.3
199	Oculocutaneous albinism 2, autosomal recessive (OCA2) *	203200	OCA2	15q12-q13.1
200	Oculofaciocardiodental, X-linked/Microphthalmia 2, X-linked	300166	BCOR	Xp11.4
201	Okhiro/Duane radial ray (DRRS)	607323	SALL4	20q13.2
202	Opitz GBBB, X-linked	300000	MID1	Xp22.2
203	Ornithine transcarbamylase deficiency, X-linked (OTC)	311250	OTC	Xp11.4
204	Osteopathia striata with cranial sclerosis, X-linked	300373	FAM123B	Xq11.2
205	Oto-dental	166750	FGF3	11q13.3
206	Pallister-Killian *	601803	Multiple	12p
207	Paris-Trousseau thrombocytopenia	188025	FLI1	11q24.3
208	Pelizaeus-Merzbacher, X-linked *	312080	PLP1	Xq22.2
209	Peutz-Jeghers (PJS)	175200	STK11	19p13.3
210	Pitt-Hopkins	610954	TCF4	18q21.2
211	Pitt-Hopkins-like 1, autosomal recessive/Cortical dysplasia-focal epilepsy, autosomal recessive (CDFE)	610042	CNTNAP2	7q35-q36.1
212	Polycystic kidney disease 1 (PKD1)	173900	PKD1	16p13.3

213	Potocki-Lupski/17p11.2 Microduplication *	610883	Multiple RAI1 candidate	17p11.2
214	Potocki-Shaffer	601224	EXT2 ALX4	11p11.2
215	Prader-Willi (PWS)	176270	SNORD116 cluster candidate	15q11.2
216	Prader-Willi-like phenotype	176270	Multiple SIM1 candidate	6q16.1-q16.3
217	Renal cysts and diabetes (RCAD)	137920	HNF1B	17q12
218	Retinoblastoma with intellectual disability	180200	RB1	13q14.2
219	Rett, congenital variant	613454	FOXP1	14q12
220	Rieger 1 (RIEG1)/Axenfeld-Rieger	180500	PITX2	4q25
221	Rubinstein-Taybi (RTS)	180849	CREBBP	16p13.3
222	Saethre-Chotzen	101400	TWIST1	7p21.1
223	Severe myoclonic epilepsy of infancy (SMEI)/Dravet	607208	SCN1A	2q24.3
224	Sex reversal, autosomal dominant 2 (SRA2)	154230	Multiple DMRT1 candidate	9p24.3
225	Short stature, pituitary and cerebellar defects, small sella turcica/Pituitary hormone deficiency, combined, 4	262700	LHX4	1q25.2
226	Siderius type intellectual disability, X-linked	300263	PHF8	Xp11.22
227	Simpson-Golabi-Behmel, X-linked (SGBS)	312870	GPC3	Xq26.2
228	Smith-Magenis (SMS)	182290	RAI1	17p11.2
229	Sotos	117550	NSD1	5q35.2-q35.3
230	Speech & language disorder 1	602081	FOXP2	7q31.1
231	Split-hand/foot malformation 1 (SHFM1)/Ectrodactyly	183600	SHFM1	7q21.3
232	Split-hand/foot malformation 3 (SHFM3)/Ectrodactyly *	246560	FBXW4	10q24.32
233	Split-hand/foot malformation 5 (SHFM5)/Ectrodactyly	606708	Multiple EVX2 candidate HOXD gene cluster candidate	2q31.1
234	Steroid sulfatase deficiency, X-linked/Ichthyosis, X-linked	308100	STS	Xp22.31
235	Synpolydactyly/Syndactyly II	186000	HOXD gene cluster	2q31.1
236	Toe syndactyly, telecanthus, anogenital & renal malformations, X-linked (STAR)	300707	FAM58A	Xq28
237	Townes-Brocks 1	107480	SALL1	16q12.1

238	Trichorhinophalangeal 1	190350	TRPS1	8q23.3
239	Tuberous sclerosis 1 (TSC1)	191100	TSC1	9q34.13
240	Tuberous sclerosis 2 (TSC2)	613254	TSC2	16p13.3
241	Ulnar-mammary	181450	TBX3	12q24.21
242	Usher IIC, autosomal recessive	605472	GPR98	5q14.3
243	Van der Woude	119300	IRF6	1q32.2
244	von Hippel-Lindau	193300	VHL	3p25.3
245	Waardenburg I	193500	PAX3	2q36.1
246	Waardenburg IIA	193510	MITF	3p13-p14.1
247	Waardenburg IIE	611584	SOX10	22q13.1
248	Waardenburg IVA/Waardenburg-Shah, autosomal recessive	277580	EDNRB	13q22.3
249	Waardenburg-Shah, neurologic variant/Peripheral demyelinating neuropathy, central dysmyelination, Waardenburg, and Hirschsprung (PCWH)/Waardenburg IVC	609136/ 613266	SOX10	22q13.1
250	Walker-Warburg, LARGE-related, autosomal recessive/Muscular dystrophy-dystroglycanopathy A1, autosomal recessive	236670	LARGE	22q12.3
251	Williams-Beuren (WBS)	194050	ELN	7q11.23
252	Wilms Tumor 1 (WT1)	194070	WT1	11p13
253	Wilms tumor-aniridia-genital anomalies-retardation (WAGR)	194072	PAX6 WT1	11p13
254	Wolf-Hirschhorn	194190	Multiple	4p16.3
255	XX male/SRY dosage abnormalities	278850	SRY	Yp11.31
256	XY gonadal dysgenesis/SRY dosage abnormalities	400044	SRY	Yp11.31
257	XY sex-reversal, +/- adrenal failure/46,XY sex reversal 3/Adrenocortical insufficiency	612965	NR5A1	9q33.3
258	All 43 unique pericentromeric regions		Multiple	43 sites
259	All 41 unique subtelomeric regions		Multiple	41 sites
260	Aneuploidy for 24 chromosomes		Multiple	24 chromosomes



**شوگازيست**  
همراه شما در دانش و نوآوری

www.shookazist.com  
info@shookazist.com

تلفن: ۰۲۱ ۸۸ ۵۸ ۳۹ ۱۰  
فکس: ۰۲۱ ۸۸ ۵۸ ۳۹ ۳۰

