

The American Journal of Human Genetics, Volume 87

Supplemental Data

A Palindrome-Mediated Recurrent Translocation

with 3:1 Meiotic Nondisjunction:

The t(8;22)(q24.13;q11.21)

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Table S1. Primer Sequences

t(1;22) PCR			
Der(1) t(1;22) Junction Fragment		Der(22) t(1;22) Junction Fragment	
Primary Amplification		Primary Amplification	
1.6RD	GCCTGTGCTCTACAAATGGATCATTGAAGT	1.9FA	GGTACAAATCACCTTTATACTGGCATACT
NF1D	AGTGACTTACTACAAATATATTAA	22.B1	CAAAATTGTGTGAAAAGCCTCCAACGG
Secondary Amplification		Secondary Amplification	
1.6RE	GAGTGTGACAATCTCATGATGAAACTTCAATGA	22.B3	GGGGGTGGGGGATGGAACGTTGAAGGATC
22.B2R	GGAAGGGAAAAACATGTTAAAAACAAAGAGAGGTAC	1.9FB	CGTTCTGCACATTCTGCACCTGTATCT
t(8;22) PCR			
Der(8) t(8;22) Junction Fragment		Der(22) t(8;22) Junction Fragment	
Primary Amplification		Primary Amplification	
8q24-7F	CAGTGAGCCAAGATCACGCCATTGCACT	22.B1	CAAAATTGTGTGAAAAGCCTCCAACGG
22.B2R	GGAAGGGAAAAACATGTTAAAAACAAAGAGAGGTAC	8q24-7R	CCTGATTCCCAAGAAAATGGGCCACTA
Secondary Amplification		Secondary Amplification	
8q24-8F	AGCCTGGGCAACAGGAGCGAAACTCCAT	22.B3	GGGGGTGGGGGATGGAACGTTGAAGGATC
22.B4R	TGTGGGGTGGGGGATGGAACGTTGAAGGATG	8q24-8R	CAAAGAGTTGTGAGCTCAGAACAGGCTCT
t(8;11) PCR			
Der(8)t(8;11) Junction Fragment		Der(11) t(8;11) Junction Fragment	
Primary Amplification		Primary Amplification	
8q24-7F	CAGTGAGCCAAGATCACGCCATTGCACT	c14irev	GGAAGTTAGAGAAAAGTGGAGAA
c14hfor	AACACTCCCACTGACAGCTA	8q24-7R	CCTGATTCCCAAGAAAATGGGCCACTA
Secondary Amplification		Secondary Amplification	
8q24-8F	AGCCTGGGCAACAGGAGCGAAACTCCAT	JFN11	CAGAAAGGGAGAGCATGTAG
JFN11.2	GGTTGAAGAATCTTGGCTGG	8q24-8R	CAAAGAGTTGTGAGCTCAGAACAGGCTCT
PATRR8 (Genotyping)		PATRR8 (Cloning)	
Primary Amplification		8q24-10aFl	TTAATTCCATTTTCTTGTACCTTCC
PATRR8-645F	CTCCCCTCTAAGTGGCATAAAGTAGAAC	8q24-10cR	CCATCTATCCACCTTATTTCAGC
PATRR8+227R	CTGTGCCAAAATGTCAAGTCATCTGTG		
Secondary Amplification			
PATRR8-203F	CAGTGAGCCAAGATCACGCCATTGC		
PATRR8+103R	CAAAGAGTTGTGAGCTCAGAACAGGC		

Table S2. PATRR8 Genotyping

Case	Total # of Clones	# of Unique Clones	PATRR8 Size Range	PATRR8 Average Length	ΔG Range
13	60	46	40-393 bp	229 bp	-90.7→-3.14
16	54	38	107-327 bp	252 bp	-93.99→-26.75
17	82	58	123-370 bp	279 bp	-80.22→-15.57
Chr8 Hybrid	97	60	127-378 bp	236 bp	-98.37 →-24.55

Figure S1. M-Fold Analysis of PATRR8 Secondary Structure Assembled from t(8;22) Junction Fragments

The secondary structures of the PATRR8 derived from t(8;22) junction fragments with the lowest free energy from three t(8;22) balanced carriers are illustrated.

Case 13 PATRR8

T

ATATATATATTAAAAATATATATATTTAAATATATATATTTTAAATATGTATATTTAAATTATATAAATTTAAATATATA TTAATATACATATTTAATATATATAAATTTAATATATATCTT A

TATATATATAAATTTTATATATATAAATTTATATATATAAAAAATTTATACATATAAATTTAATATATTTAAATTTATATATAAATTTATATGTATAAAATTATATATA TAAAT TATATATAGAA T

A

Cases 16 and 17 PATRR8

T

AAATATATATATTTAAAAATATATATATTTAAAAATATATATTTAAATATATATATCTTTAAATATGTATATTTAAATTTATATAAATTTAAATATATATAAATTTAATATACATATTTAATATATATAAATTTAATATATATCTT A

TTTATATATATATAAATTTTATATATAAATTTTATATATATAAATTTATATATATAGAAATTTATACATATAAATTTAATATATTTAAATTTATATATAAATTTATATGTATAAAATTATATATA TAAATTTATATATAGAA T

A