A new RFLP marker D12S54 maps between F8VWF and KRAS2 on human chromosome 12p

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Source/Description: JH-5 (D12S54) consists of a 15.7 kb insert cloned into the *Bam*HI site of λ EMBL3. JH-5 was identified from a subclone library constructed from a *Mbo*I partial digest of YAC clone D61E6 obtained from the Center for Genetics in Medicine (Washington University).

Polymorphisms:

Enzyme	Allele	Size	Constant Bands
<i>Bgl</i> II	A1	11 kb	1.7 kb
	A2	6.0, 4.9 kb	
<i>Taq</i> I	B1	4.8 kb	3.5, 1.7 kb
	B2	3.8 kb	
	C1	3.0 kb	
	C2	2.7 kb	

Frequencies: Determined from parents in 40 CEPH families.

Allele	Frequency	PIC	Heterozygosity(%)	Number of Chromosomes
A1	0.48	0.37	50	144
A2	0.52			
B1	0.19	0.26	31	140
B2	0.81			
C1	0.11	0.21	20	142
C2	0.89			

Not Polymorphic For: *Bam*HI, *Eco*RI, *Hind*III, *Msp*I, or *Pst*I in digests of 6 unrelated individuals.

Mendelian Inheritance: Co-dominant inheritance observed in CEPH reference pedigrees.

Chromosomal Localization: To chromosome 12p by genetic linkage analysis, using the CEPH pedigrees, CEPH V4 database, and the program package CRI-MAP (1). Shown below is a sex-averaged map of 12p markers which can be uniquely placed at a minimum of 1000:1 odds (cytogenetic localizations shown for F8VWF and KRAS2 were taken from (2), and PRB1 from (3)), and a two-point lod table with 2 chromosome 12p markers.

Probe Availability: Freely available; contact H.Donis-Keller.

Other Comments: The *Bgl*II and *Taq*I allele systems are in strong linkage disequilibrium. Hybridizations to *Bgl*II Southern blots reveal an additional variable band at 1.8 kb which may be a dominant polymorphism; this was not evaluated in the CEPH families.

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References: 1)Donis-Keller,H. *et al.* (1987) *Cell* **51**, 319-337.
2)O'Connell,P. *et al.* (1987) *Genomics* **1**, 93-102.
3)Ropers,H.H. and Craig,I.W. (1989) *Cytogenet. and Cell Genet.* **51**, 259-279.

D12S54 (*Bgl*II, *Taq*I) vs.

Z max $\hat{\theta}$

PRB1 (*Eco*RI)

13.4 0.15

KRAS2 (p640/*Taq*I)

7.18 0.06