A new RFLP locus D4S185 maps to human chromosome 4q

T.C.Lairmore¹, A.Vocero Villeta², S.Dou², T.Steinbrueck² and H.Donis-Keller²

Departments of Surgery¹ and Genetics², Box 8232, 660 S. Euclid, Washington University Medical School, St Louis, MO 63110, USA

Source/Description: The probe TCL-4 (D4S185) is an approximately 15 kb human insert cloned into the *Bam*HI site of λ EMBL3. TCL-4 was isolated from a subclone library constructed from the YAC clone A171F10 (Center for Genetics in Medicine, Washington University) containing a segment of chromosome 4 in its human insert.

Polymorphism:

Enzyme	Constant Bands	Allele	Size	Frequency	Heterozygosity = 15%
<i>Hind</i> III	6.7 kb, 5.4 kb	A1	12.8 kb	0.07	PIC = 0.12 (136 chromosomes, CEPH parents)
		A2	11.5 kb	0.93	

No Polymorphism Observed For: *Bam*HI, *Bgl*II, *Eco*RI, *Hinc*II, *Msp*I, *Pst*I, *Taq*I (12 unrelated individuals); and *Alu*I, *Eco*RV, *Hae*III, *Hinf*I, *Pvu*II, *Rsa*I, *Sac*I, *Xba*I (6 unrelated individuals).

Mendelian Inheritance: Mendelian codominant inheritance observed.

Chromosomal Localization: Localized to chromosome 4q by genetic linkage:

D4S185 (TCL-4) vs.	χ^2	θ
D4S102 (CRI-V820/ <i>Taq</i> I)	2.39	0.16
D4S101 (CRI-R227/ <i>Taq</i> I)	5.12	0.04
ENX2 (ENX2/ <i>Pvu</i> II)	8.13	0.00
D4S120 (CRI-L527/ <i>Taq</i> I)	2.71	0.00
MNS (MNS/serol)	2.20	0.12

Regional Genetic Linkage Map: Shown below is a multipoint map using the CEPH version 4 genotype database and the computer program CRI-MAP with loci uniquely placed at a minimum 1000:1 odds (1). The loci D4S120 and ENX2 were not uniquely placed. The cytogenetic localizations are from HGM10 (2).

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

Other Comments: Although TCL-4 is minimally informative, the RFLP locus identified by this probe maps to a poorly characterized region of chromosome 4. Hybridizations were performed as previously described (1). Partial support for this work was provided by NIH Surgical Oncology Training Grant 1T32 CA09621-02 (to S.A.Wells) and NIH Grant RO1 HG00304-04 (to H.D.-K.).

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*Bam*HI polymorphism at N-acetyl- α -galactosaminidase locus (NAGA)

Toyoaki Yamauchi, Hajime Tanaka, Masao Hiraiwa¹, Yutaka Uda¹, Tadashi Miyatake and Shoji Tsuji*

Department of Neurology, Brain Research Institute, Niigata University, 1 Asahimachi-dori, Niigata 951 and ¹Department of Health Chemistry, Niigata Pharmaceutical College, Kami-shin'eicho, Niigata 951, Japan

Source/Description: pcD2-HS1225 is a 2.1 kb cDNA encoding human N-acetyl- α -galactosaminidase (α -galactosidase B) cloned into pcD2 vector (1).

Polymorphism: *Bam*HI identified a two allele polymorphism with one band at 20.9 kb (A1) or two bands at 15.2 kb and 5.7 kb (A2).

Frequency: Studied in 32 unrelated Japanese individuals.

20.9 kb allele: 0.86

15.2 kb, 5.7 kb allele: 0.14

Not Polymorphic For: *Msp*I, *Pst*I, *Pvu*II, *Hinf*I, *Eco*RI, *Kpn*I

Chromosomal Localization: Assigned to chromosome 22q13-qter using somatic cell hybrids (2).

Mendelian Inheritance: Co-dominant segregation shown in 2 two generation families.

Probe Availability: Contact Shoji Tsuji at the above address.

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* To whom correspondence should be addressed