Isolation and mapping of a polymorphic DNA sequence (pCMM66) on chromosome 14 [D14S22]

Y.Nakamura, C.Martin, L.Ballard, P.O'Connell, M.Leppert, G.M.Lathrop, J.-M.Lalouel and R.White

The Howard Hughes Medical Institute, University of Utah Medical School, Salt Lake City, UT 84132, USA

SOURCE/DESCRIPTION: A 4.8 kb TaqI fragment from cosmid CMM66 isolated by a myoglobin-2 oligonucleotide (1) was subcloned into the AccI site of pUC18.

POLYMORPHISM: PstI identifies a 7 allele VNTR polymorphism with a band between 4.0 and 6.0 kb with constant bands at 1.5 and 1.2 kb. RsaI also shows the same polymorphism.

FREQUENCY: Estimated from 67 unrelated Caucasians, the heterozygosity of this probe is 85% with PstI.

NOT POLYMORPHIC FOR: MspI and TaqI.

CHROMOSOMAL LOCALIZATION: pCMM66 has been assigned to chromosome 14q by multipoint linkage analysis(2) with loci (D14S1, GM, PI) known to span this region(3,4).

MENDELIAN INHERITANCE: Co-dominant segregation of the PstI RFLP was observed in 34 three generation families.

PROBE AVAILABILITY: Contact Y.N.

OTHER COMMENTS: RFLPs were observed under hybridization with total human DNA.

REFERENCES:

1. Y. Nakamura et al., Science 235:1616-1622 (1987)
2. G.M. Lathrop et al., Am. J. Hum. Genet. 37:482-498 (1985)
3. D.R. Cox and T. Gedde-Dahl, Cytogenet. Cell Genet. 40:206-242 (1985)
4. Y. Nakamura et al., abstract submitted to Human Gene Mapping Workshop 9. Cytogenet Cell Genet., in press