
Isolation and mapping of a polymorphic DNA sequence pMLJ14 on chromosome 14 [D14S13]

Y.Nakamura, M.Culver, J.Gill, 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: This clone is a cosmid pJB-8 derivative with a 40kb insert in the EcoRI site identified with the myoglobin oligonucleotide (1).

POLYMORPHISM: RsaI optimally resolves a >20 allele VNTR polymorphism with bands between 4.0 - 15.0 kb. With RsaI, numerous constant bands are observed below the size range of the polymorphism. MspI, TagI, PstI, BglIII, BamHI, PvuII, HindIII, and EcoRI also detect the same polymorphism.

HETEROZYGOSITY: With RsaI, 95% heterozygosity was observed in 108 unrelated Caucasians.

CHROMOSOMAL LOCALIZATION: pMLJ14 has been assigned to distal chromosome 14q by multipoint linkage analysis(2) with loci (D14S1, PI, GM) known to span this region (3,4).

MENDELIAN INHERITANCE: Co-dominant segregation of the VNTR polymorphism has been observed in 54 three generation families.

PROBE AVAILABILITY: Contact Y.N.

OTHER COMMENTS: RFLPs observed under normal stringency. The whole cosmid can be used as a probe without pre-association with excess 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