Isolation and mapping of a polymorphic DNA sequence (pCMI37) on chromosome 7 [D7S368]

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SOURCE/DESCRIPTION: A 3.5 kb MspI fragment from the cosmid cCMI37 identified using the insulin oligonucleotide (1) cloned into ClaI site of pBR322.

POLYMORPHISM: RsaI identifies 3 polymorphic systems that identify one locus. System A has a two allele polymorphism (RA1 : 5.5 kb, RA2 : 4.8 kb, RA3 : 4.6 kb). System B has a VNTR polymorphism with four alleles from 2.5 - 3.0 kb. System C is a two allele polymorphism (RC1 : 2.4 kb, RC2 : 2.3 kb). MspI and TaqI also detect the VNTR polymorphism (system B).

HETEROZYGOSITY: Estimated from 98 unrelated Caucasians.

RsaI	RA1 : 0.34
	RA2 : 0.66
	System B: 60% heterozygosity was observed.
	RC1 : 0.83
	RC2 : 0.17

NOT POLYMORPHIC FOR: EcoRI, HindIII, PvuII, BglII, PstI, and BamHI neither detect the site polymorphism nor adequately resolve the VNTR polymorphism.

CHROMOSOMAL LOCALIZATION: pCMI37 has been assigned to chromosome 7 by multipoint linkage analysis (2) with loci (COL1A2, TCRG) known to span this region (3,4).

MENDELIAN INHERITANCE: Co-dominant segregation for the RsaI polymorphisms have been observed in 49 three generation families.

PROBE AVAILABILITY: Available from the ATCC. Or contact Y.N..

OTHER COMMENTS: RFLPs were observed under normal hybridization and wash stringencies.

REFERENCES:

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4. G.M. Lathrop et al., abstract submitted to the Human Gene Mapping Workshop 9