Polymorphisms revealed by random probe H2-10 [D13S26] which maps to chromosome 13q21-q22

A.M.Bowcock, J.M.Hebert and L.L.Cavalli-Sforza

Department of Genetics, Stanford University, Stanford, CA 94305, USA

SOURCE/DESCRIPTION: H2-10 contains a 1.3kb fragment subcloned into the HindIII site of pBR322. The original HindIII fragment was subcloned from a Charon 21A bacteriophage derived from a chromosome 13 specific library (1).

POLYMORPHISM: Two allele polymorphisms are detected with:
BclI (6.3kb and 5.6kb) with a constant band of 2.15kb
HphI (2.8kb and 2.0kb)
BspI286 (6.0kb and 5.2kb)
EcoRI (9.0kb and 8.0kb)
HgaI also reveals a two allele polymorphism (5.2kb and 4.3kb) but this has not been verified by pedigree studies.

FREQUENCY: (Number of unrelated Caucasian individuals used to estimate frequencies is shown in parenthesis)

BclI	6.3kb : 0.28; 5.6kb : 0.72	(40)
HphI	2.8kb : 0.33; 2.0kb : 0.67	(47)
BspI286	6.0kb : 0.91; 5.2kb : 0.09	(87)
EcoRI	9.0kb : 0.18; 8.0kb : 0.82	(30)

NOT POLYMORPHIC FOR: AccI, ApaI, BglII, BstNI, EcoRV, HaeIII, HincII, HindIII, KpnI, MboI, PstI, PvuII, RsaI, Sau96I, ScaI, ScrFI, SstI, StyI, TaqI, XmnI, on a panel of at least 6 unrelated Caucasian individuals.

CHROMOSOMAL LOCALISATION: 13q21-q22 by both somatic cell and in-situ hybridisation (1,2).

MENDELIAN INHERITANCE: Co-dominant segregation was observed for all four systems. BclI: 8 families, 116 individuals; HphI: 12 families, 170 individuals; BspI286: 8 families, 89 individuals; EcoRI: 4 families, 68 individuals.

PROBE AVAILABILITY: Upon request from the American Type Culture Collection, 12301 Parklawn Drive, Rockville, Maryland 20852, U.S.A.

OTHER COMMENTS: The EcoRI and BclI polymorphisms appear to be due to the same event. The BclI, HphI and BspI286 polymorphisms are occasionally different.

REFERENCES: 1. Lalande et al., Cancer Genet. & Cytogenet. 13 (1984) 283.
2. Lalande et al., Cancer Genet. & Cytogenet. 23 (1986) 151.

ACKNOWLEDGEMENTS: This work was supported by NIH grant GM 28428. We thank Dr. S. Latt for probe H2-10.