Dra I identifies a two allele DNA polymorphism in the human alpha2-adrenergic receptor gene (ADRAR), using a 5.5 kb probe (p ADRAR)

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SOURCE/DESCRIPTION:

A 5.5 kb human genomic DNA fragment (BamH I) of the platelet alpha2-adrenergic receptor (ADRAR)(1), containing the whole coding region (1350 bp), and kindly provided by Drs. Brian K. Kobilka and Robert J. Lefkowitz (2), was used as a probe (p ADRAR).

POLYMORPHISM:

Hybridization of human genomic DNA digested with Dra I identifies a two allele polymorphism with bands at 6.7 kb (A) and 6.3 kb (B).

FREQUENCY:

18 unrelated Caucasians (North America) were studied.

A allele: 0.81

B allele: 0.19

NOT POLYMORPHIC FOR:

Aat I, AlwI, Apa I, ApaL I, Ase I, Ban I, Ban II, BamH I, Bcl I, Bgl I, Bgl II, BspI, BspM I, BspN I, Bsp 1286, BstE II, BstN I, BstX I, Bsu 36 I, Dde I, Dpn I, Eco 0109, Eco RV, Eco T22, Fok I, HgiA I, Hinc II, Hind III, Hinf I, Hph I, Kpn I, Mbo I, Msp I, Nhe I, Nsi I, OxaI, PflM I, Pst I, Pvu II, Pss I, Sac I, Sau 3A, Ssp I, Sty I, Taq I, Tth III, Xba I, Xmn I.

CHROMOSOMAL LOCALIZATION:

The human platelet alpha2-receptor gene has been localized on chromosome 10 (q24-q26).

MENDELIAN INHERITANCE:

Codominant segregation in 3 families with 2 generations.

OTHER COMMENTS:

High stringency wash of the blots in 0.1XSSC/0.1% SDS at 65°C shows no significant background. Two additional constant bands at 5 kb and 4.1 kb were identified. The digests were run on 0.6%, 0.8% and 1.5% agarose gels on a constant field electrophoresis at 40 V.

PROBE AVAILABILITY:

Available on request from Drs. B.K. Kobilka and R.J. Lefkowitz, Howard Hughes Medical Institute, Departments of Medicine, Biochemistry, and Physiology, Duke University Medical Center, Durham, NC 27710.

REFERENCES:

- (1) New Haven Human Gene Mapping Library, 1988, No. 3, HGM9.
- (2) B.K. Kobilka et al., 1987, Science 238, 650-656.

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