Two RFLPs identified by a human chromosome #2 clone at 2p15-2p16 (HGM8 assignment no. D2S5)

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SOURCE AND DESCRIPTION OF CLONE: 1.85 kb single copy fragment subcloned in pBR322 from a recombinant phage isolated from a Hind III library (complete digest in Charon 21A) made with DNA of flow sorted chromosome no. 1 containing a homogeneously staining region (HSR) from a human neuroblastoma, IMR-32. This fragment is amplified 75 fold in that HSR (1).

POLYMORPHISMS: 1) EcoRI (G/AATTC) (New England Biolabs) identifies one invariant band at 6.0 kb and a two allele polymorphism with a band at either 23.0 or 15.0 kb. 2) MspI (C/CGG) (New England Biolabs) identifies one invariant band at 11.0 kb and a two allele polymorphism with bands at either 6.8 kb or 6.1 and 0.7 kb.

ALLELE FREQUENCIES: 1) EcoRI polymorphism: studied 34 American Caucasians.
23 kb allele (A1): 0.68
15 kb allele (A2): 0.32
2) MspI polymorphism: studied 20 American Caucasians.
6.8 kb allele (A1): 0.7
6.1, 0.7 kb allele (A2): 0.3

NOT POLYMORPHIC FOR: BglIII, PvuII, TaqI, PstI, BstXI, XmnI, XbaI, StuI, BclI, NcoI, NdeI, BstNI, HphI, Hind III with DNA from 4 unrelated American Caucasians.

CHROMOSOMAL LOCALIZATION: On the short arm of chromosome 2 at the region 2p15-2p16 using a panel of translocation hybrids and in situ hybridization (2).

MENDELIAN INHERITANCE: Co-dominant segregation observed in 2 Caucasian families (18 individuals).

PROBE AVAILABILITY: Available, subject to signing of institutional proprietary form, upon correspondence to Samuel A. Latt, M.D., Ph.D.

OTHER COMMENTS: RFLP's were observed under normal stringency. Use of 0.6% agarose gel is recommended for good resolution of the EcoRI RFLP.

REFERENCES: 1) Kanda et al., Proc. Natl. Acad. Sci. USA 80 (1983) 4069-4073.
2) Shiloh et al. Proc. Natl. Acad. Sci. USA. In press, 1985.

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