A human minisatellite probe reveals RFLPs among individuals of two angiosperms

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Some "DNA fingerprinting" probes are capable of revealing several moderately to hypervariable loci simultaneously when hybridized with blots of endonuclease-digested DNA from selected tetrapods (1,2,3). The 33.15 and 33.6 probes (1,2) hybridize with sequences in rice (4); differences in hybridization patterns were found only among cultivars, but not among individuals within a cultivar. Here we show that probe 33.15 (supplied by A. Jeffreys; 1) reveals fragment differences between individuals from natural populations of the angiosperms *Populus deltoides* (cottonwood; Fig. 1 lanes 1-6) and *P. tremuloides* (aspen; lanes 7,8). In Fig. 1 unique numbers refer to different individuals. Lanes marked with a number and its prime represent two different branches from the same individual, and similarity of such lanes implies that fragment lengths are somatically stable. While these results are preliminary, they demonstrate that probe 33.15 may hybridize with genomic sequences that are variable among individuals of dicot species, and with results from tetrapods (1,2,3) and monocots (4), suggest that particular minisatellite families (1,2) may be widespread among the eukaryotes.

Methods: 10 ug of DNA per individual extracted (5) from leaves was digested with *Hae*III, electrophoresed in a 0.9% agarose gel, and blotted onto MSI Nylon. Probe 33.15 (1,2) was hexamer-labelled (6) with 32 P. Hybridization was in 1.4XSSC, 0.5% nonfat dry milk solution (7) at 65°C for 12hr; filters were washed in 1XDenhardt's, 2XSSC, 0.2%SDS (two 15 min washes), then washed twice with 2XSSC, 0.1%SDS for 1 hr at 37°C; autoradiography was at -80°C with screens for 2-4 days. **References:** 1. Jeffreys et al., 1985, *Nature* **314**:67. 2. Jeffreys et al., 1985, *Nature* **316**:76. 3. Burke et al., 1987, *Nature* **327**:149. 4. Dallas, 1988, *PNAS* **81**:8014. 6. Feinberg, 1984, *Anal. Biochem.* **137**:266. 7. Johnson et al., 1984, *Gene Anal. Tech.* **1**:3. **Support:** NSF BSR-8700214 (SHR) and BSR-8714397 (BAS); USDA PSW-84-0021CA (BAS); NIH GM31571 (A. Templeton). Fig. 1:

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