Letter to the Editor

FURTHER DATA ON LINKAGE BETWEEN CYSTIC FIBROSIS AND 7C22 (*D7S16*)

To the Editor: The cystic fibrosis gene (*CF*) has been indirectly localized to chromosome 7q2.2-3.1 by linkage to several recombinant-DNA markers (Knowlton et al. 1985; Scambler et al. 1985, 1986; Tsui et al. 1985; Wainwright et al. 1985; White et al. 1985). Two of these markers, *met* and J3.11, have been shown to be sufficiently tightly linked to allow accurate first-trimester prenatal diagnosis in many families (Beaudet et al. 1986; Farrall et al. 1986).

The anonymous DNA marker 7C22 (*D7S16*) recognizes an *Eco*RI polymorphism that has been mapped to ~4 centimorgans from *CF* (Scambler et al. 1986). In this letter we report further linkage data from several workers in the United States, Canada, and the United Kingdom that show *D7S16* to be tightly linked to *CF* (maximal lod score 35.9; θ(male = female) = 0.025; confidence interval 0.009–0.043). *D7S16* showed no evidence for linkage disequilibrium with *CF*. The allele frequencies are .8/.2 for 7.2- and 5.1-kb fragments, respectively.

With previously reported polymorphisms for pmetH (*Taq*I and *Msp*I), pmetD (*Taq*I and *Ban*I) and J3.11 (*Msp*I and *Taq*I), ~65% of nuclear *CF* families with at least one proband available for testing are fully informative for diagnosis (i.e., both parental chromosomes carrying the *CF* allele are marked). The additional data from *D7S16* may be of use in those families that are par-

TABLE 1

LOD SCORES (Male = Female) FOR *D7S16* VERSUS *CF* AT SELECTED RECOMBINATION FRACTIONS

	RECOMBINATION FRACTION					
STUDY	0.01	0.05	0.10	0.20	0.30	0.40
CAL	6.50	5.80	4.95	3.28	1.75	0.56
FRA	6.35	5.94	5.05	3.22	1.59	0.46
HOU	4.44	5.09	4.74	3.41	1.89	0.56
LON	4.38	4.92	4.44	2.98	1.53	0.43
SLC	5.22	5.25	4.67	3.19	1.71	0.51
TOR	8.16	7.18	5.99	3.74	1.85	0.51
Total	35.05	34.18	29.84	19.82	10.32	3.03

SOURCES.—CAL: Anne Bowcock and Luca Cavalli-Sforza (Department of Genetics, Stanford University School of Medicine) and Mary-Claire King (Division of Human Genetics, School of Public Health, University of California, Berkeley); FRA: Kathy Klinger and Paul Watkins (Integrated Genetics, Inc., Framingham, MA; HOU: Art Beaudet and J. Edward Spence (Howard Hughes Medical Institute, Baylor College of Medicine, Houston); LON: Martin Farrall, Peter Scambler, Brandon Wainwright, and Robert Williamson (St. Mary's Hospital Medical School, London); SLC: Mark Lathrop, Mark Leppert, Peter O'Connell, and Ray White (Howard Hughes Medical Institute, Salt Lake City); and TOR: Manuel Buchwald and Lap-Chee Tsui (Department of Genetics, the Hospital for Sick Children, Toronto).

tially informative with *met*/J3.11, and it would be expected to increase the proportion of totally informative families to ~75%. Probe 7C22 is freely available for research and for noncommercial diagnostic use. (Send inquiries to Dr. Peter Scambler, Department of Biochemistry, St. Mary's Hospital Medical School, Norfolk Place, London W2 1PG, UK.)

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