

FOR THE RECORD

Han Wei,^{1,2} Ph.D.; Qianzi Zhao,^{1,2} M.Sc.; and Shengbin Li,^{1,2} Ph.D., M.D.

Genetic Polymorphism for the PowerPlex™ 16 System from the Chinese Tujia Ethnic Minority Group

POPULATIONS: The population studied was the Tujia population, living in the Hunan Province, China. Their ancestors had lived in the region for at least three generations. As a Chinese minority group, the Tujia ethnic group, with a population of 8,028,133 (year of 2000), is mainly distributed in the Wuling mountain area in the three provinces of Hunan, Hubei, and Sichuan. The Tujia population have their own language, which belongs to the Tibetan–Myanmese Language Group of the Chinese–Tibetan Language Family, but the large majority have come to speak the Han and Miao languages, now that the Tujias have been largely assimilated.

KEYWORDS: forensic science, DNA typing, population genetics, short tandem repeat (STR), Chinese Tujia ethnic group, powerplex-16 system, China

Whole EDTA blood samples were randomly collected from 98 unrelated individuals of the Tujia population living in the Yongshun district of the Miao and Tujia Autonomous Region of Hunan province in China. Genomic DNA was extracted using the Chelex-100 protocol as described by Walsh et al. (1). According to the manufacturer's instructions (GenePrint PowerPlex™ 16 System, Promega, Madison, WI), 1 ng target DNA was amplified using GeneAmp PCR system 9600 (PE Applied Biosystems,

Foster City, CA). PCR products were detected using an ABI prism (377) automatic sequencer (PE Applied Biosystems), and typed automatically using GeneScan (Version 3.1.2) and PowerTyper™ 16 Macro by comparison with the allelic ladder from the kit. Gene diversities were estimated according to Nei (2).

The complete dataset is available via electronic mail from the corresponding author: shbinlee@mail.xjtu.edu.cn or the first author: hanwei@mail.xjtu.edu.cn

TABLE 1—Allele frequencies and statistical parameters for 15 STR loci of the Chinese Tujia ethnic group (n = 98).

Allele	D3S1358	TH01	D21S1	D18S51	Penta E	D5S818	D13S317	D7S820	D16S539	CSF1PO	Penta D	vWA	D8S1179	TPOX	FGA
5					0.0663										
6		0.0510			0.0051										
7		0.2704				0.0255		0.0051		0.0051					
8		0.0969			0.0051	0.0051	0.2296	0.1378	0.0357		0.0408			0.3622	
9		0.4949			0.0204	0.1224	0.1684	0.1173	0.2602	0.0459	0.3418			0.1327	
9.3		0.0561													
10		0.0306		0.0153	0.0561	0.1327	0.0918	0.1735	0.1531	0.1582	0.1429		0.1276	0.0255	
11					0.1582	0.3776	0.3418	0.2908	0.2245	0.3367	0.1735		0.1276	0.4694	
12				0.0306	0.0816	0.1990	0.1020	0.1990	0.2143	0.3673	0.1531		0.0969	0.0102	
13				0.1173	0.0510	0.1224	0.0255	0.0714	0.1020	0.0663	0.1071		0.2398		
13.2				0.0561											
14	0.0561			0.2347	0.1224	0.0051	0.0357	0.0051	0.0102	0.0204	0.0357	0.2551	0.1939		
15	0.2704			0.1582	0.0867	0.0102	0.0051				0.0051	0.0153	0.1480		
16	0.3980			0.0969	0.0816							0.1939	0.0510		
17	0.2194			0.0612	0.1327							0.2500	0.0102		0.0051
18	0.0408			0.0357	0.0510							0.1990	0.0051		0.0102
19	0.0153			0.0714	0.0357							0.0663			0.0510
20				0.0306	0.0102							0.0204			0.0714
20.2															0.0153

¹The Key Laboratory of Environment and Gene Related to Diseases, Ministry of Education, Xi'an Jiaotong University, Xi'an 710061, Shaanxi, China.

²The Key Laboratory of Public Health of Ministry for Forensic Sciences, Xi'an Jiaotong University, Xi'an 710061, Shaanxi, China.

TABLE 1—Continued.

Allele	D3S1358	TH01	D21S1	D18S51	Penta E	D5S818	D13S317	D7S820	D16S539	CSF1PO	Penta D	vWA	D8S1179	TPOX	FGA
21				0.0204	0.0153										0.1173
21.2															0.0102
22				0.0255	0.0153										0.1378
23				0.0306											0.2500
23.2															0.0204
24				0.0153	0.0051										0.1327
24.2															0.0255
25															0.1020
25.2															0.0102
26															0.0204
27															0.0204
28			0.0663												
29			0.2704												
30			0.2602												
30.2			0.0051												
31			0.1173												
31.2			0.0408												
32			0.0408												
32.2			0.1020												
33			0.0153												
33.2			0.0714												
34.2			0.0102												
OH	0.7153	0.6659	0.8218	0.8791	0.9064	0.7695	0.7813	0.8078	0.8008	0.7197	0.7948	0.7902	0.8383	0.6301	0.8666
PIC	0.6763	0.6580	0.8111	0.8753	0.9052	0.6262	0.7734	0.7943	0.4600	0.6821	0.7948	0.7801	0.0453	0.6251	0.8640
PD	0.8651	0.8449	0.9450	0.9661	0.9758	0.9138	0.9184	0.9329	0.9207	0.8751	0.9288	0.9142	0.9461	0.7974	0.9581
PE	0.5885	0.5509	0.8039	0.8754	0.9080	0.7103	0.7235	0.7631	0.7279	0.6123	0.7504	0.7079	0.8070	0.4459	0.8479
<i>p</i>	0.9972	1.0000	0.9997	1.0000	0.9998	0.9890	0.9950	0.9994	0.9978	0.9925	1.0000	0.9890	0.9981	0.9992	0.9741

n, number of samples; OH, observed heterozygosity; PIC, polymorphic information content; PD, power of discrimination; PE, probability of exclusion; *p*, probability values of exact tests for Hardy–Weinberg equilibrium.

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Additional information and reprint requests:

Han Wei, Ph.D.
The Key Laboratory of Public Health of Ministry for Forensic Sciences
Xi'an Jiaotong University
Yan Ta West Road No.76
Xi'an 710061, Shaanxi
China
E-mail: hanwei@mail.xjtu.edu.cn