

Supplementary Table 1. Ethnic groups list in Pan Asia (assign Ethnic group as like "two country-two ethnic group") and HapMap populations

Abbreviation of ethnic group	Ethnicity	Abbreviation of ethnic group	Ethnicity	Abbreviation of ethnic group	Ethnicity
AX-AI	Karitiana	ID-SU	Sunda	PI-MA	Minanubu
AX-AM	Ami	ID-TB	Batak Toba	PI-MW	Mamanwa
AX-AT	Atayal	ID-TR	Toraja	PI-UB	Filipino
AX-ME	Melanesians	IN-DR	Proto-Austroloids	PI-UI	Filipino
CEU	European	IN-EL	Caucasoids	PI-UN	Filipino
CHB	Han	IN-IL	Caucasoids	SG-CH	Chinese
CN-CC	Zhuang	IN-NI	Mongoloid features	SG-ID	Indian
CN-GA	Han	IN-NL	Caucasoids	SG-ML	Malay
CN-HM	Hmong	IN-SP	Caucasoids	TH-HM	Hmong
CN-JI	Jiamao	IN-TB	Mongoloid features	TH-KA	Karen
CN-JN	Jinuo	IN-WI	Caucasoids	TH-LW	Lawa
CN-SH	Han	IN-WL	Caucasoids	TH-MA	Mlabri
CN-UG	Uyghur	JP-ML	Japanese	TH-MO	Mon
CN-WA	Wa	JP-RK	Ryukyuan	TH-PL	Paluang
ID-AL	Alorese	JPT	Japanese	TH-PP	Plang
ID-DY	Dayak	KR-KR	Koreans	TH-TK	Tai Khuen
ID-JA	Javanese	MY-BD	Bidayuh	TH-TL	Tai Lue
ID-JV	Javanese	MY-JH	Negrito	TH-TN	H'tin
ID-KR	Batak Karo	MY-KN	Malay	TH-TU	Tai Yuan
ID-LA	Lamaholot	MY-KS	Negrito	TH-TY	Tai Yong
ID-LE	Lembata	MY-MN	Malay	TH-YA	Yao
ID-ML	Malay	MY-TM	Proto-Malay	TW-HA	Chinese
ID-MT	Mentawai	PI-AE	Ayta	TW-HB	Chinese
ID-RA	Manggarai	PI-AG	Agta	YRI	Yoruba
ID-SB	Kambera	PI-AT	Ati		
ID-SO	Manggarai	PI-IR	Iraya		

AX, Affymetrix Inc. (not country); CN, China; ID, Indonesia; IN, India; JP, Japan; KR, Korea; MY, Malaysia; PI, Philippine; SG, Singapore; TH, Thailand; TW, Taiwan.

The samples from HapMap were expressed as three codes: CEU, European sampled in America; CHB, Chinese sampled in US; JPT, Japanese sampled in Japan; YRI, Yoruba sampled in Africa.