



Fig. 1 Principal Coordinate Analysis (PCoA) plot based on Nei's unbiased genetic distance matrix of 17 Y-STRs between Bangladeshi populations and 22 reference populations from YHRD database.

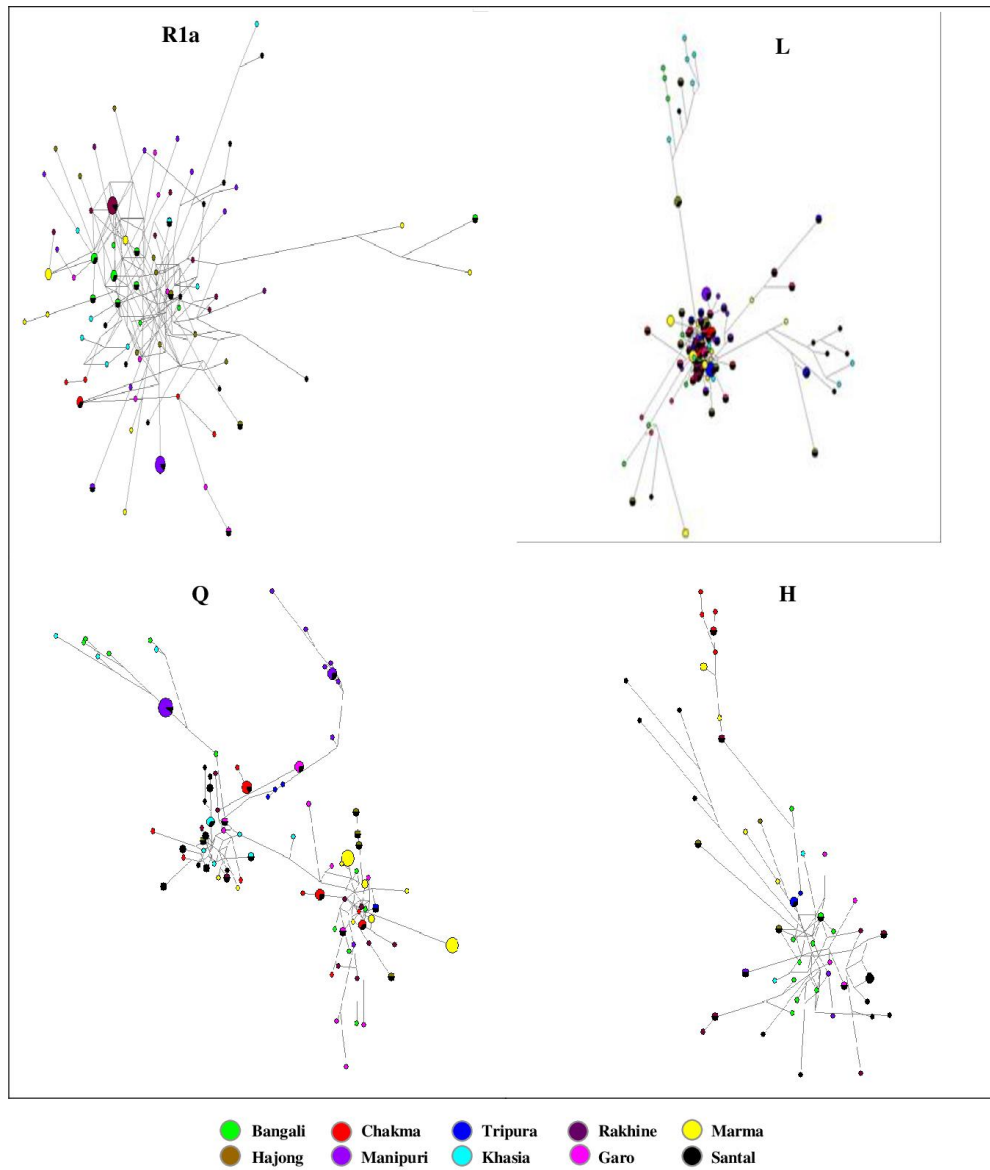


Fig S2: The Median-joining (MJ) networks of Y-STR haplotypes within haplogroups R1a, L, Q, and H reported in this study based on 15 Y-STRs. Circles represent haplotypes with areas proportional to frequencies; the smallest area is equivalent to one individual. Colours indicate the population of origin, as listed at the bottom of the figure. Branch length is proportional to the number of mutations between haplotypes.

Supplementary Table S1: List of Y Chromosome STR haplotypes detected in 150 unrelated males in Chakma population

Haplotype	DYS456	DYS389I	DYS390	DYS389II	DYS458	DYS19	DYS385	DYS393	DYS391	DYS439	DYS635	DYS392	YGATAH4	DYS437	DYS438	DYS448	N	F	Predicted Y-haplogroup	Probability
Ck1	15	12	23	29	17	16	10,16	12	10	13	19	12	12	15	10	19	1	0.0066	L	99
Ck2	15	14	23	30	16	15	11,18	14	10	11	22	11	11	14	10	21	3	0.02	G2a	64.3
Ck3	16	13	24	29	16	17	15,20	14	10	12	22	14	13	14	10	18	5	0.0333	Q	66.9
Ck4	15	14	23	32	16	15	11,18	14	10	11	22	11	11	14	10	21	1	0.0066	E1b1a	60.1
Ck5	15	12	24	28	16	14	13,20	12	10	12	21	14	12	15	11	20	3	0.02	L	84.5
Ck6	15	11	23	28	14	14	12,13	16	11	12	24	11	12	16	10	20	1	0.0066	I1	86.1
Ck7	15	12	23	26	18	15	12,16	13	10	13	20	13	13	15	10	19	2	0.0133	L	98.8
Ck8	15	12	25	29	20	15	15,16	12	10	11	20	10	11	14	10	19	1	0.0066	H	99.6
Ck9	14	12	24	28	17	14	13,20	12	10	11	22	15	12	15	11	19	4	0.0267	Q	69.6
Ck10	15	12	24	27	19	14	13,19	12	10	14	21	14	12	15	11	20	2	0.0133	L	97.6
Ck11	15	12	24	28	18	14	13,19	13	10	13	20	14	12	15	11	19	1	0.0066	L	93.6
Ck12	15	13	24	29	15	15	13,19	14	11	11	21	13	11	14	10	18	2	0.0133	T	98.5
Ck13	17	13	25	30	15	15	11,14	13	10	10	23	11	13	14	11	20	3	0.02	R1a	100
Ck14	15	12	23	28	19	14	13,17	12	10	11	21	14	12	15	11	20	1	0.0066	L	99.6
Ck15	15	12	23	28	17	14	13,21	12	10	11	20	14	11	15	11	21	1	0.0066	J1	53.1
Ck16	15	12	24	27	18	14	13,20	12	10	12	21	14	12	15	11	18	1	0.0066	Q	68.6
Ck17	15	12	23	28	17	14	13,22	12	10	11	20	14	12	15	11	20	1	0.0066	J1	62.3
Ck18	15	12	23	28	17	15	13,22	12	10	11	20	14	12	15	11	20	1	0.0066	J1	49.8
Ck19	15	12	23	27	18	15	12,16	13	10	13	20	13	12	15	10	19	1	0.0066	L	98.9
Ck20	15	14	23	30	18	15	11,17	15	10	11	22	11	11	14	10	21	1	0.0066	G2a	78.7
Ck21	15	12	23	28	18	14	13,19	12	10	11	21	14	12	15	11	20	3	0.02	L	98.5
Ck22	15	12	24	28	17	14	13,17	12	10	12	20	14	12	15	11	20	3	0.02	L	98.8
Ck23	15	12	23	30	17	16	10,16	13	10	12	19	12	12	15	10	19	1	0.0066	I2a	85.5
Ck24	15	13	24	29	19	14	14,18	12	11	11	21	11	11	14	11	17	1	0.0066	J1	75.9
Ck25	14	12	24	30	17	14	13,20	12	10	11	22	15	12	15	11	19	1	0.0066	Q	93.9
Ck26	15	12	23	28	20	14	12,17	12	10	12	19	12	11	15	10	19	1	0.0066	L	82.4
Ck27	15	12	25	28	18	15	13,21	12	10	12	20	14	12	15	11	20	2	0.0133	L	93.6
Ck28	14	12	23	28	17	15	14,21	12	10	11	20	14	12	15	11	20	1	0.0066	L	98.3
Ck29	14	12	23	28	17	15	14,22	12	10	11	20	14	12	15	11	20	1	0.0066	J1	42.9
Ck30	15	14	23	31	16	14	11,12	13	10	11	22	14	12	14	11	19	2	0.0133	N	91.6
Ck31	17	13	25	30	17	15	12,12	14	10	11	19	11	12	14	11	19	1	0.0066	R1a	56.6
Ck32	15	13	25	31	18	16	15,20	15	10	13	21	13	10	14	10	18	1	0.0066	J1	31.6
Ck33	14	12	24	28	17	14	13,20	13	10	11	21	15	11	16	11	19	1	0.0066	L	94.3
Ck34	15	13	24	29	18	14	13,18	12	10	13	21	14	11	15	11	20	1	0.0066	L	85.3
Ck35	15	14	23	32	16	14	11,12	13	10	11	22	14	12	14	11	19	1	0.0066	N	94
Ck36	15	12	23	29	17	14	13,22	12	10	11	20	14	12	15	11	20	1	0.0066	J1	78.9
Ck37	14	13	24	29	17	14	12,19	12	10	12	20	14	12	15	11	20	1	0.0066	L	96.1
Ck38	16	12	24	27	18	14	13,20	12	10	12	21	14	12	15	11	20	1	0.0066	L	75.4
Ck39	16	12	24	27	17	14	13,20	12	10	12	21	14	12	15	11	20	1	0.0066	L	73.2
Ck40	15	12	23	30	17	16	10,16	13	10	12	20	12	12	15	10	19	4	0.0267	I2a	88.6
Ck41	15	14	23	28	16	15	11,17	15	10	11	21	11	11	14	10	21	1	0.0066	J2a1h	91
Ck42	15	12	23	27	18	15	12,16	13	10	13	20	13	13	15	10	19	1	0.0066	L	98.8
Ck43	15	14	23	30	16	15	11,17	14	10	11	21	11	11	14	10	21	1	0.0066	G2a	89.7
Ck44	15	13	24	29	18	14	13,20	12	10	12	20	14	12	15	11	20	1	0.0066	L	93.2
Ck45	14	12	24	27	17	14	13,20	12	10	11	21	15	12	16	11	19	2	0.0133	L	100
Ck46	14	13	24	29	16	17	15,21	14	10	12	22	14	13	14	10	18	1	0.0066	Q	93.8
Ck47	15	12	24	29	18	14	13,19	12	10	13	20	14	12	15	11	19	2	0.0133	L	99.6
Ck48	15	12	23	29	17	16	10,16	13	10	12	19	12	12	15	10	19	1	0.0066	I2a	63.8
Ck49	15	12	24	27	18	14	13,20	12	10	12	21	14	12	15	11	20	2	0.0133	L	75.4
Ck50	15	12	24	28	18	14	13,19	12	10	12	20	14	12	15	11	19	2	0.0133	L	99.5
Ck51	15	12	24	28	17	14	13,18	12	10	11	20	14	12	15	11	20	1	0.0066	L	99.3
Ck52	14	12	23	28	17	15	13,21	12	10	11	20	14	12	15	12	20	1	0.0066	L	99
Ck53	17	13	25	29	14	16	16,21	13	11	14	21	13	11	14	10	18	1	0.0066	Q	93.7
Ck54	15	12	23	28	18	14	13,17	12	10	11	21	14	12	15	11	20	1	0.0066	L	98.7
Ck55	15	12	23	28	17	16	10,16	12	10	13	20	12	12	15	10	19	2	0.0133	L	99.1
Ck56	15	12	23	28	18	14	14,19	12	10	11	21	14	12	15	11	20	1	0.0066	L	89.8
Ck57	16	13	25	29	15	16	15,19	14	10	11	21	13	11	14	10	18	1	0.0066	T	83.4
Ck58	15	13	24	29	18	14	13,19	13	11	12	20	15	12	15	11	20	1	0.0066	Q	67.2
Ck59	14	13	24	26	17	14	12,19	12	10	12	20	14	12	15	11	20	1	0.0066	L	99.9
Ck60	14	12	23	28	17	15	13,22	12	10	11	20	14	12	15	11	20	2	0.0133	J1	68.1
Ck61	15	12	23	28	20	15	13,17	12	10	11	21	14	12	15	11	20	1	0.0066	L	99.8

Ck62	17	13	25	29	15	15	11,14	13	10	10	23	11	13	14	11	20	1	0.0066	R1a	100
Ck63	15	12	24	28	16	14	13,20	12	10	12	20	14	12	15	11	20	2	0.0133	L	99.1
Ck64	15	13	24	28	18	14	13,19	12	10	11	21	14	12	14	11	20	1	0.0066	J1	63.4
Ck65	15	12	24	29	19	14	13,18	12	10	12	21	14	12	15	11	20	1	0.0066	L	95.4
Ck66	15	12	24	28	18	14	14,16	12	10	12	21	14	12	15	11	20	1	0.0066	Q	68.2
Ck67	14	13	24	29	17	13	12,19	12	10	12	20	14	12	15	11	20	1	0.0066	L	84.2
Ck68	17	14	23	31	17	14	14,19	15	10	10	25	10	11	16	11	19	1	0.0066	L	94.5
Ck69	17	13	25	28	15	15	11,14	13	10	10	23	11	13	14	11	20	1	0.0066	R1a	100
Ck70	15	11	23	28	14	14	12,13	15	11	12	23	11	12	16	10	20	1	0.0066	I1	89.2
Ck71	15	12	23	29	17	16	10,16	12	10	13	20	12	12	15	10	19	1	0.0066	L	99
Ck72	15	12	23	28	18	14	13,18	12	10	11	21	14	12	15	11	20	1	0.0066	L	99.4
Ck73	15	12	25	28	20	15	15,17	12	10	11	20	10	11	14	10	19	1	0.0066	H	99.9
Ck74	14	12	23	28	17	15	13,22	12	10	11	20	13	12	15	11	20	1	0.0066	J1	99.2
Ck75	16	13	24	29	16	15	15,19	14	10	12	22	12	13	14	10	18	1	0.0066	E1b1b	64.4
Ck76	15	12	25	29	20	15	15,16	12	10	12	20	10	11	14	10	19	1	0.0066	H	99.4
Ck77	15	12	23	27	20	15	12,16	13	10	14	20	13	12	15	10	19	1	0.0066	L	99.8
Ck78	15	12	24	27	18	14	13,19	12	10	13	20	14	12	15	11	19	1	0.0066	L	99.9
Ck79	15	14	23	30	16	15	11,16	14	10	11	21	11	11	14	10	21	1	0.0066	G2a	97.6
Ck80	15	12	23	28	19	14	13,18	12	10	11	21	14	12	15	11	20	1	0.0066	L	99.8
Ck81	15	12	24	28	17	14	13,19	12	10	12	20	14	12	15	11	19	1	0.0066	L	99.4
Ck82	18	13	25	28	17	16	16,20	14	10	12	22	13	11	14	10	18	1	0.0066	Q	92
Ck83	15	12	23	28	18	15	12,17	12	10	12	20	12	11	15	10	19	1	0.0066	L	99.8
Ck84	15	12	24	28	18	14	13,19	12	11	12	20	14	12	15	11	19	1	0.0066	L	99.6
Ck85	15	12	23	29	18	14	13,19	12	10	12	21	13	12	14	11	19	1	0.0066	J1	58.5
Ck86	15	12	23	28	19	14	12,17	12	10	12	19	12	11	15	10	19	1	0.0066	L	95.9
Ck87	15	12	24	29	18	14	13,19	12	10	13	20	12	12	15	11	19	1	0.0066	L	96
Ck88	15	12	23	28	19	14	13,18	12	10	11	22	14	12	15	11	20	1	0.0066	L	93.5
Ck89	15	12	24	28	18	14	13,18	14	10	13	20	14	12	15	11	20	1	0.0066	L	88.4
Ck90	17	13	25	30	16	15	15,22	14	10	12	21	14	11	14	10	18	1	0.0066	Q	100
Ck91	15	14	23	28	17	13	11,17	15	11	11	22	12	13	14	10	21	1	0.0066	Q	96.4
Ck92	15	12	25	29	21	15	15,16	12	11	11	20	11	11	14	10	19	1	0.0066	H	91.7
Ck93	15	12	23	28	18	14	13,17	12	11	11	21	14	12	15	11	20	1	0.0066	L	99
Ck94	15	12	24	28	17	14	13,17	12	11	12	20	14	12	15	11	20	1	0.0066	L	99
Ck95	15	12	24	28	19	14	13,19	12	11	11	20	14	12	15	11	19	1	0.0066	L	99.9
Ck96	14	12	24	28	17	14	13,20	12	11	10	22	15	12	15	11	19	1	0.0066	Q	61
Ck97	15	12	24	27	18	14	13,20	12	11	12	21	14	11	15	11	18	1	0.0066	Q	81.6
Ck98	15	12	24	29	18	14	13,18	12	11	12	20	14	13	15	11	20	1	0.0066	L	99.1
Ck99	15	12	24	28	18	14	13,18	12	11	12	20	14	12	15	11	19	1	0.0066	L	99.8
Ck100	15	12	25	28	21	15	15,17	12	11	11	20	10	11	14	10	19	1	0.0066	H	99.8
Ck101	18	13	25	28	17	16	17,20	14	11	12	22	13	11	14	10	18	2	0.0133	Q	94.1
Ck102	15	12	24	28	18	14	13,18	12	11	12	20	14	12	15	11	20	2	0.0133	L	99.6
Ck103	17	13	25	28	17	15	12,12	14	11	11	19	11	12	14	11	19	1	0.0066	I2a1	93.1
Ck104	15	13	25	29	18	14	14,20	12	11	12	20	14	12	15	11	20	1	0.0066	L	83.5
Ck105	17	13	25	30	17	15	12,12	14	11	11	19	11	12	14	11	19	1	0.0066	R1a	76.9
Ck106	15	12	24	28	18	15	14,19	12	11	12	20	14	11	15	12	20	1	0.0066	L	82.9
Ck107	16	14	24	31	18	16	15,21	14	11	12	23	14	13	14	10	18	1	0.0066	Q	99.7
Ck108	15	12	24	28	18	14	13,18	12	11	10	21	14	12	15	11	20	1	0.0066	L	97.3
Ck109	14	12	24	28	17	14	13,21	12	11	10	21	15	12	15	11	19	1	0.0066	L	50.8
Ck110	15	11	23	28	14	14	12,13	15	12	11	23	11	12	16	10	20	1	0.0066	I1	90.6
Ck111	15	12	25	28	18	14	13,19	12	11	13	20	14	12	15	11	21	1	0.0066	L	85.4
Ck112	15	13	24	29	18	14	14,20	12	11	11	20	15	12	15	11	20	1	0.0066	L	68.7
Ck113	15	12	24	28	18	14	13,20	12	11	12	20	14	12	15	11	19	1	0.0066	L	99.1
Ck114	16	14	21	30	18	15	13,17	14	11	12	20	13	14	15	10	19	1	0.0066	L	80.5
Ck115	15	12	23	28	19	14	13,20	12	10	11	20	14	12	15	11	20	1	0.0066	L	99.8
Ck116	15	12	25	28	18	15	13,22	12	10	12	20	14	12	15	11	20	1	0.0066	Q	87.3

N: Number of individuals observed for each haplotype; F: Frequency of each haplotype in 150 individuals

Supplementary Table S2: List of Y Chromosome STR haplotypes detected in 144 unrelated males in Tripura population

Haplotype	DYS456	DYS389I	DYS390	DYS389II	DYS458	DYS19	DYS385	DYS393	DYS391	DYS439	DYS635	DYS392	YGATAH4	DYS437	DYS438	DYS448	N	F	Predicted Y-haplogroup	Probability
Tr1	15	12	25	28	18	14	13,17	12	11	12	20	14	12	15	11	21	1	0.0069	L	75.5
Tr2	16	13	25	29	17	14	15,20	14	9	12	21	12	11	14	10	18	1	0.0069	E1b1b	95
Tr3	15	13	24	29	17	15	13,20	12	10	10	23	11	11	14	10	18	1	0.0069	J1	91.4
Tr4	15	12	24	28	17	14	13,17	12	10	12	20	14	13	15	11	19	4	0.0277	L	99
Tr5	15	13	24	28	17	15	14,19	12	10	10	23	11	11	14	10	18	1	0.0069	I2a	88.3
Tr6	14	13	24	27	19	14	13,19	12	10	12	20	14	12	15	11	21	1	0.0069	L	89.3
Tr7	16	12	23	28	19	14	13,20	12	10	11	20	14	11	15	11	20	1	0.0069	L	99.8
Tr8	15	12	24	27	18	17	14,19	12	10	13	23	13	11	15	12	20	1	0.0069	L	48.3
Tr9	16	12	23	28	17	14	12,20	12	10	11	20	13	13	15	11	20	1	0.0069	L	99.9
Tr10	15	12	23	29	17	14	13,18	12	10	11	20	14	12	14	11	20	1	0.0069	J1	94.1
Tr11	15	12	24	28	17	14	13,18	12	10	11	21	14	12	15	11	20	1	0.0069	L	96.1
Tr12	16	13	25	29	16	14	15,20	14	10	12	21	12	11	14	10	18	2	0.0138	E1b1b	84
Tr13	15	13	24	28	17	15	14,19	12	10	10	23	12	11	14	10	18	1	0.0069	I2a	83
Tr14	15	12	24	27	17	14	13,20	12	10	12	21	13	12	15	11	20	1	0.0069	L	73.7
Tr15	15	13	23	27	17	14	13,18	12	10	12	20	14	12	14	11	20	1	0.0069	J1	72.6
Tr16	15	12	24	27	18	17	14,19	12	10	14	22	13	11	15	12	20	1	0.0069	L	84
Tr17	15	15	23	27	17	14	14,19	13	10	12	23	11	11	14	9	21	1	0.0069	J2a1	93.9
Tr18	14	14	23	30	17	14	14,19	13	10	12	23	11	11	14	9	21	6	0.0416	J2a1	99.2
Tr19	14	14	23	28	17	14	14,19	13	10	12	23	11	11	14	9	21	1	0.0069	J2a1	97.8
Tr20	16	13	24	28	19	14	13,19	12	11	12	20	15	11	15	11	20	1	0.0069	L	97.2
Tr21	15	12	24	27	18	14	13,18	12	10	12	21	14	11	15	11	20	6	0.0416	L	86.8
Tr22	15	12	23	28	20	14	13,19	12	10	11	20	14	12	15	11	20	2	0.0138	L	96.2
Tr23	15	13	24	28	19	14	13,20	12	10	12	20	14	12	15	11	20	1	0.0069	L	98.7
Tr24	16	14	21	29	18	15	13,17	14	10	12	20	13	10	15	10	19	3	0.0208	L	73.9
Tr25	17	13	22	29	18	15	16,18	12	10	11	20	11	12	14	9	19	2	0.0138	H	100
Tr26	15	12	24	27	18	15	13,18	12	10	12	21	14	11	15	11	20	1	0.0069	L	97
Tr27	15	12	24	28	17	17	14,16	12	10	11	22	13	12	15	11	20	1	0.0069	L	87.3
Tr28	15	12	24	28	17	14	13,19	12	10	12	20	14	13	15	11	20	3	0.0208	L	98.5
Tr29	15	12	23	28	17	14	13,18	12	10	12	20	14	12	14	11	20	7	0.0486	J1	62.2
Tr30	16	12	23	28	19	14	13,20	12	10	11	20	14	12	15	11	20	2	0.0138	L	99.9
Tr31	15	12	24	29	18	14	13,18	13	10	12	21	14	12	15	10	20	2	0.0138	L	96.3
Tr32	15	12	23	28	17	14	13,18	12	10	13	20	14	11	14	11	20	2	0.0138	J1	82.1
Tr33	14	14	23	30	17	14	14,20	13	10	12	23	11	11	14	9	21	1	0.0069	J2a1	100
Tr34	15	12	23	28	17	14	13,18	12	10	11	20	14	12	14	11	20	1	0.0069	J1	77.4
Tr35	15	12	24	28	17	14	13,20	12	10	12	21	13	12	15	11	20	1	0.0069	L	63.6
Tr36	14	13	24	28	19	14	13,19	12	10	12	20	14	12	15	11	21	1	0.0069	L	81.1
Tr37	15	15	23	31	17	14	14,19	13	10	12	23	11	11	14	9	21	1	0.0069	J2a1	96.6
Tr38	17	12	23	27	18	14	13,20	12	10	11	20	14	12	15	11	20	1	0.0069	L	99
Tr39	15	12	23	29	17	14	13,18	12	10	13	20	14	11	14	11	20	1	0.0069	J1	95.5
Tr40	15	12	25	27	18	14	13,18	12	10	12	21	14	11	15	11	20	1	0.0069	L	92.8
Tr41	15	13	24	29	17	15	14,19	12	10	10	23	11	11	14	10	18	4	0.0277	I2a	45.3
Tr42	15	12	24	28	18	17	14,19	12	10	13	23	13	11	15	12	20	3	0.0208	L	57
Tr43	15	13	24	29	17	15	14,20	12	10	10	23	11	11	14	10	18	2	0.0138	J1	57.1
Tr44	15	12	23	28	17	14	12,20	12	10	12	20	14	13	15	11	20	1	0.0069	L	99.9
Tr45	15	12	24	28	17	14	13,17	12	10	12	20	14	12	15	11	19	1	0.0069	L	99.4
Tr46	15	14	23	31	16	15	12,19	15	10	11	21	11	11	14	10	21	1	0.0069	G2a	85.1
Tr47	17	13	22	29	18	15	16,17	12	10	11	20	11	12	14	9	19	1	0.0069	H	100
Tr48	15	12	23	28	18	14	13,20	12	10	11	20	14	13	15	11	20	1	0.0069	L	99.8
Tr49	16	12	24	28	17	14	15,18	12	10	11	20	14	12	15	11	20	2	0.0138	L	99.3
Tr50	14	15	23	31	17	14	14,19	13	10	12	23	11	11	14	9	21	1	0.0069	J2a1	98.8
Tr51	16	14	21	29	18	15	13,17	14	10	11	20	13	10	15	10	19	1	0.0069	T	50.7
Tr52	15	12	24	28	18	17	14,19	12	10	12	21	13	11	15	11	20	1	0.0069	L	98.8
Tr53	16	12	23	28	19	14	13,21	12	10	11	20	14	12	15	11	20	1	0.0069	L	98.6
Tr54	16	12	24	27	17	14	14,18	12	10	12	21	14	11	15	11	20	2	0.0138	Q	62.7
Tr55	15	12	23	28	17	14	14,18	12	10	12	20	14	13	14	11	20	1	0.0069	L	65.9
Tr56	14	12	24	27	18	14	13,18	12	10	12	21	14	11	15	11	20	1	0.0069	L	98.2
Tr57	15	12	24	28	18	14	13,19	12	10	12	20	14	13	15	11	20	1	0.0069	L	98.7
Tr58	15	12	25	28	16	14	13,19	12	10	12	20	14	13	15	11	20	1	0.0069	L	99.7
Tr59	16	13	25	30	16	14	15,20	14	10	12	21	12	11	14	10	18	1	0.0069	E1b1b	97.4
Tr60	14	12	24	28	17	14	13,20	12	10	11	20	15	12	15	11	19	1	0.0069	L	99.8

Tr61	14	13	24	33	16	14	14,19	12	9	10	21	11	11	14	10	17	4	0.0277	E1b1b	73.4
Tr62	16	13	24	29	19	14	13,19	12	11	12	20	15	11	15	11	20	2	0.0138	L	96.7
Tr63	15	12	25	27	16	14	13,18	12	10	12	20	14	12	15	11	21	1	0.0069	L	95.1
Tr64	16	12	23	28	18	14	12,20	12	10	11	20	14	13	14	11	20	1	0.0069	L	97.8
Tr65	16	13	25	30	16	14	13,20	14	10	12	21	12	11	14	10	18	1	0.0069	E1b1b	94
Tr66	14	13	24	32	16	14	14,20	12	9	10	22	11	11	14	10	17	1	0.0069	E1b1b	69.9
Tr67	15	12	23	29	17	14	13,18	12	10	12	20	14	12	14	11	20	1	0.0069	J1	88.2
Tr68	17	12	23	28	18	15	13,20	12	10	11	20	14	12	15	11	20	1	0.0069	L	99.7
Tr69	15	12	24	28	17	14	14,18	12	10	12	20	14	12	15	11	20	1	0.0069	L	96.2
Tr70	16	13	24	29	16	16	15,20	13	10	13	23	14	13	14	10	18	1	0.0069	Q	99.5
Tr71	15	12	24	30	17	14	8,13	12	10	12	20	11	13	15	11	20	1	0.0069	J2a1	98.1
Tr72	17	12	23	28	18	14	13,20	12	10	11	20	12	12	15	11	20	1	0.0069	L	57.5
Tr73	17	13	22	29	19	15	16,17	12	10	11	20	11	12	14	9	19	1	0.0069	H	100
Tr74	15	12	24	27	20	14	13,19	13	10	12	21	14	12	15	10	20	1	0.0069	L	99.2
Tr75	16	13	24	24	19	14	13,19	12	11	12	20	15	11	15	11	20	1	0.0069	L	95.3
Tr76	16	13	23	28	17	14	12,20	12	10	11	20	14	13	15	11	20	1	0.0069	L	99.9
Tr77	16	13	24	30	16	16	15,20	13	10	13	23	14	13	14	10	18	1	0.0069	Q	99.5
Tr78	15	13	24	29	18	14	14,19	12	11	13	21	11	11	14	11	17	1	0.0069	J1	85.4
Tr79	16	13	24	29	18	14	13,19	12	11	12	20	15	11	15	11	20	1	0.0069	L	89.2
Tr80	16	13	24	24	18	14	13,19	12	11	12	20	15	11	15	11	20	1	0.0069	L	85.3
Tr81	15	12	25	28	16	14	13,18	12	11	12	20	14	12	15	11	21	1	0.0069	L	94.9
Tr82	14	13	24	29	17	14	14,19	12	9	10	21	11	11	14	10	17	1	0.0069	J1	96.4
Tr83	14	13	24	30	16	14	14,19	12	9	10	22	11	11	14	10	17	1	0.0069	E1b1b	73.7
Tr84	15	12	23	29	17	15	12,15	12	10	12	19	12	12	15	10	20	1	0.0069	J2a1b	44.5
Tr85	16	13	24	29	16	16	15,20	13	10	13	24	14	13	14	10	18	1	0.0069	Q	74.3
Tr86	15	12	25	28	18	14	13,19	12	11	14	20	11	11	15	11	21	1	0.0069	J1	99.5
Tr87	14	12	24	28	18	13	13,19	12	10	12	20	14	12	15	11	19	1	0.0069	L	87.3
Tr88	15	13	24	31	16	14	14,19	12	9	10	21	11	11	14	10	17	3	0.0208	E1b1b	48.6
Tr89	15	12	24	28	17	14	13,18	12	10	13	20	14	12	15	11	20	2	0.0138	L	99.7
Tr90	16	12	23	28	17	14	12,20	12	10	11	20	14	13	14	11	20	1	0.0069	L	97.4
Tr91	16	14	21	27	18	14	13,17	14	10	12	20	15	10	15	10	19	1	0.0069	L	96.4
Tr92	15	12	23	27	20	14	14,19	12	10	12	20	14	12	15	11	20	2	0.0138	L	99.3
Tr93	16	12	23	28	18	14	13,20	12	10	11	21	14	13	15	11	20	1	0.0069	L	96.4
Tr94	14	14	23	30	17	14	14,19	13	11	12	23	11	11	14	9	21	1	0.0069	J2a1	99.7
Tr95	16	12	24	28	17	14	13,19	12	10	12	20	14	13	15	11	20	1	0.0069	L	98.5
Tr96	16	12	23	28	18	14	13,20	12	10	11	20	14	12	15	11	20	1	0.0069	L	99.8
Tr97	15	12	24	28	18	15	14,19	12	10	11	20	14	12	15	13	20	1	0.0069	L	77.7
Tr98	15	13	25	29	18	14	14,19	12	11	13	21	11	11	14	11	17	1	0.0069	J1	95.2
Tr99	15	12	23	28	17	15	13,22	11	10	13	21	13	11	14	11	20	1	0.0069	J1	80.5

N: Number of individuals observed for each haplotype; F: Frequency of each haplotype in 144 individuals

Supplementary Table S3: List of Y Chromosome STR haplotypes detected in 110 unrelated males in Khasia population

Haplotype	DYS456	DYS389I	DYS390	DYS389II	DYS458	DYS19	DYS385ab	DYS393	DYS391	DYS439	DYS635	DYS392	YGATAH4	DYS437	DYS438	DYS448	N	F	Predicted Y-haplogroup	Probability
Kh1	15	13	25	29	16	15	15,22	14	11	13	21	13	11	14	10	18	2	0.0181	L	93.1
Kh2	14	14	23	30	16	14	18,18	14	11	10	20	12	11	15	11	19	1	0.0091	Q	52.8
Kh3	15	13	25	29	16	15	15,18	12	10	11	21	12	10	14	10	18	1	0.0091	L	92.2
Kh4	15	13	25	30	17	15	15,19	14	10	11	21	12	10	14	10	18	1	0.0091	L	89.1
Kh5	15	13	23	28	16	15	12,17	15	10	13	20	11	11	14	10	21	1	0.0091	G2a	85
Kh6	14	14	24	30	17	14	15,19	12	10	13	23	11	11	14	9	20	1	0.0091	J2a1	97.5
Kh7	16	13	25	29	16	15	15,19	14	11	11	21	13	11	14	10	18	1	0.0091	T	92.3
Kh8	16	13	24	30	16	15	15,20	14	11	12	21	13	11	14	10	18	1	0.0091	T	71.6
Kh9	15	13	25	29	16	15	15,23	14	11	13	21	13	11	14	10	18	1	0.0091	T	87.2
Kh10	15	14	23	30	16	15	12,17	13	10	11	19	12	11	15	10	19	1	0.0091	I2b1	86.9
Kh11	15	14	25	31	16	15	11,14	13	10	10	23	11	12	14	11	20	1	0.0091	R1a	100
Kh12	15	13	25	28	17	15	14,18	15	11	12	21	13	11	14	10	18	1	0.0091	T	80.1
Kh13	14	12	24	28	17	14	14,18	12	10	12	21	14	12	15	10	20	1	0.0091	L	99.6
Kh14	17	14	25	31	16	15	11,15	13	10	10	23	11	13	14	12	19	2	0.0181	R1a	100
Kh15	15	13	23	30	17	14	14,19	15	10	10	25	10	11	16	11	19	1	0.0091	L	97.6
Kh16	15	13	25	29	17	15	15,19	14	10	11	21	13	10	14	10	18	6	0.0545	T	71.8
Kh17	15	14	22	30	18	13	12,16	13	10	12	23	15	10	15	11	19	1	0.0091	T	99.8
Kh18	15	14	25	32	16	16	11,14	13	11	10	23	11	13	14	11	20	1	0.0091	R1a	100
Kh19	16	12	23	27	15	15	11,17	15	10	12	20	11	11	14	10	21	1	0.0091	G2a	91.7
Kh20	15	12	23	28	17	15	13,22	12	10	13	21	13	11	14	11	20	1	0.0091	J1	97.6
Kh21	16	13	26	29	15	15	16,19	14	10	13	21	13	10	14	10	18	1	0.0091	L	58.2
Kh22	17	13	25	29	16	15	15,21	14	11	12	21	13	11	14	10	18	1	0.0091	L	99.1
Kh23	16	13	22	30	17	15	15,17	12	11	11	20	12	11	14	9	19	1	0.0091	H	99.5
Kh24	15	14	25	30	16	16	15,20	14	11	11	21	13	11	14	10	18	1	0.0091	L	43.3
Kh25	14	14	23	29	16	14	13,19	15	10	10	25	10	12	14	11	19	1	0.0091	L	98.1
Kh26	15	12	25	29	17	16	13,16	14	10	11	22	14	12	14	12	19	1	0.0091	L	98
Kh27	16	13	25	29	17	15	16,19	14	10	11	22	13	11	14	10	18	1	0.0091	Q	82
Kh28	14	14	23	30	16	14	13,18	14	11	10	25	10	11	15	11	19	1	0.0091	L	98.3
Kh29	15	13	26	28	16	15	13,18	15	11	11	21	13	11	14	10	18	1	0.0091	T	87.9
Kh30	15	14	25	32	16	15	11,12	13	10	10	24	11	13	14	11	20	1	0.0091	R1a	100
Kh31	15	13	23	30	17	15	12,18	13	10	11	19	12	11	15	10	19	1	0.0091	Q	39.7
Kh32	16	13	24	29	16	15	16,19	14	10	12	21	13	12	14	10	18	1	0.0091	T	52.9
Kh33	16	13	24	28	16	16	14,20	14	10	14	22	14	13	14	10	18	1	0.0091	L	99.9
Kh34	15	13	25	29	16	16	16,19	14	11	12	22	13	11	14	10	18	1	0.0091	Q	54
Kh35	15	13	23	30	17	15	12,17	13	10	11	19	12	11	15	10	19	2	0.0181	I2b1	53.3
Kh36	15	13	23	30	15	14	14,14	13	12	11	22	11	13	14	9	19	1	0.0091	J2a1	80.4
Kh37	16	14	25	32	17	15	15,20	14	10	12	21	13	11	14	10	18	2	0.0181	Q	83.8
Kh38	16	14	23	30	18	15	12,16	13	10	11	19	12	11	15	10	19	3	0.0273	L	48.9
Kh39	15	13	25	29	15	16	17,17	14	11	12	22	13	11	14	10	18	1	0.0091	T	64.5
Kh40	15	13	23	28	15	15	12,17	14	10	12	20	11	10	14	10	22	1	0.0091	G2a	68.6
Kh41	14	13	23	28	17	15	13,17	14	10	10	25	10	12	15	11	19	1	0.0091	L	97.5
Kh42	15	14	25	31	16	15	10,14	13	10	11	23	11	13	14	11	20	1	0.0091	R1a	100
Kh43	15	13	25	29	16	15	15,21	14	10	12	21	13	10	14	10	18	1	0.0091	Q	81.1
Kh44	14	13	23	28	17	14	13,17	14	11	10	25	10	12	15	11	19	1	0.0091	L	91.6
Kh45	15	13	23	30	18	15	12,17	13	11	11	19	12	11	15	10	19	1	0.0091	J2a1b	35.6
Kh46	15	13	25	29	17	15	15,19	14	10	11	21	12	10	14	10	18	1	0.0091	I2b1	96.7
Kh47	15	13	23	30	16	14	14,20	13	10	11	22	12	11	14	9	20	1	0.0091	J2a1	91.5
Kh48	15	13	23	28	15	15	11,18	14	10	12	20	11	11	14	10	21	1	0.0091	G2a	64.9
Kh49	15	13	24	30	16	15	12,17	13	10	12	19	12	11	15	10	19	1	0.0091	L	62.4
Kh50	15	13	23	30	17	15	12,17	13	10	11	19	12	11	14	10	19	2	0.0181	I2b1	82
Kh51	15	13	24	30	17	15	15,16	14	10	11	18	11	12	14	10	19	2	0.0181	I2b1	94.7
Kh52	17	13	23	29	17	15	13,15	12	10	13	22	11	11	16	10	20	1	0.0091	J1	71.3
Kh53	15	13	23	28	15	15	12,17	15	10	12	21	11	11	14	10	21	1	0.0091	J2a1h	99.5
Kh54	16	13	25	29	15	15	16,19	15	11	12	21	13	12	14	10	18	1	0.0091	L	83.9
Kh55	15	13	22	31	19	14	14,16	13	10	11	18	11	12	14	10	20	1	0.0091	J2a1b	76.4
Kh56	15	14	25	30	16	16	15,21	14	11	11	21	13	11	14	10	18	2	0.0181	I2b1	53.1
Kh57	17	13	25	30	16	15	13,17	13	10	11	23	13	12	15	11	18	1	0.0091	Q	98
Kh58	16	14	23	29	15	14	11,12	13	11	11	23	14	13	14	11	19	1	0.0091	N	83.6
Kh59	16	13	23	30	15	14	11,12	13	11	11	24	14	12	14	11	20	1	0.0091	R1a	76

Kh60	15	13	25	30	18	15	10,14	13	10	11	23	11	13	14	11	20	1	0.0091	R1a	100
Kh61	16	13	25	28	16	15	14,19	13	12	11	21	13	11	14	10	18	1	0.0091	T	98.8
Kh62	15	13	25	30	16	15	10,14	13	10	11	23	11	13	14	11	20	1	0.0091	R1a	100
Kh63	15	13	25	30	16	15	10,14	13	10	11	23	11	13	14	11	19	1	0.0091	R1a	100
Kh64	15	14	22	30	15	15	15,18	12	10	11	21	13	11	14	9	19	1	0.0091	T	93.2
Kh65	15	14	25	29	17	15	15,19	14	10	11	21	13	10	14	10	18	1	0.0091	T	99.1
Kh66	16	14	25	31	17	15	15,20	14	10	12	21	13	11	14	10	18	1	0.0091	Q	86.5
Kh67	16	13	25	28	16	15	14,19	13	11	11	21	13	11	14	10	18	1	0.0091	T	99.5
Kh68	16	13	25	31	17	15	11,15	13	11	10	23	11	12	14	11	21	1	0.0091	R1a	100
Kh69	16	12	24	28	17	15	13,19	12	10	11	20	14	11	15	11	20	1	0.0091	L	99.6
Kh70	16	13	25	29	16	15	16,19	14	10	12	21	13	10	14	10	18	3	0.0273	T	75.5
Kh71	16	12	24	28	17	15	13,19	12	10	11	20	13	11	15	11	20	1	0.0091	Q	87.5
Kh72	15	13	24	30	16	15	12,17	13	10	11	19	12	11	15	10	19	1	0.0091	I2b1	88.4
Kh73	15	13	24	30	17	15	13,16	14	10	11	18	11	12	14	10	19	1	0.0091	I2b1	57.8
Kh74	15	13	23	28	15	15	11,17	15	10	12	20	11	11	14	10	21	1	0.0091	J2a1h	59.4
Kh75	15	13	24	29	19	16	16,19	14	10	12	21	13	12	14	10	17	1	0.0091	T	42.9
Kh76	15	12	24	27	17	14	13,19	12	10	12	20	14	13	15	11	20	1	0.0091	L	98.8
Kh77	14	15	25	32	16	16	12,14	13	11	10	23	11	13	14	11	20	2	0.0181	Q	100
Kh78	15	13	23	28	15	15	11,17	16	10	12	20	11	11	14	10	21	1	0.0091	G2a	83.8
Kh79	15	13	24	30	17	15	12,16	13	10	11	19	12	11	15	9	19	1	0.0091	J2a1b	72.1
Kh80	15	12	25	28	17	15	13,18	12	10	11	21	14	12	15	11	20	1	0.0091	Q	99.5
Kh81	16	12	24	27	17	15	13,19	12	10	11	20	14	11	15	11	20	1	0.0091	L	99.8
Kh82	16	13	25	30	15	16	15,21	14	11	13	21	13	11	14	10	18	1	0.0091	Q	57
Kh83	15	13	23	30	17	15	12,16	13	10	11	19	12	11	15	10	19	1	0.0091	I2b1	78.9
Kh84	15	13	24	28	16	15	14,18	15	11	12	21	13	11	14	11	18	1	0.0091	T	95.8
Kh85	15	13	22	29	18	15	15,17	12	10	11	21	11	12	14	9	18	1	0.0091	H	100
Kh86	15	14	25	30	16	15	15,23	14	11	12	21	13	12	14	10	18	2	0.0181	Q	77.3
Kh87	15	14	25	30	16	15	15,23	14	11	12	21	12	12	14	10	18	1	0.0091	L	91.5
Kh88	16	13	25	29	17	15	15,19	14	10	11	21	13	10	14	10	18	1	0.0091	L	91.4
Kh89	16	13	26	30	16	14	13,18	13	10	11	23	13	11	15	11	17	2	0.0181	L	99.8
Kh90	16	13	24	30	16	15	15,20	14	11	12	21	13	12	14	10	18	1	0.0091	Q	62.6
Kh91	16	13	23	30	17	15	13,17	13	11	11	19	12	11	15	10	19	1	0.0091	J2a1b	34.6

N: Number of individuals observed for each haplotype; F: Frequency of each haplotype in 110 individuals

Supplementary Table S4 : Allele frequencies, genotype frequencies and gene diversity of 17 Y-STR markers in Chakma (n=150), Tripura (n=144) and Khasia (n=110) ethnic populations in Bangladesh

A*	DYS456			A	DYS389I			A	DYS390			A	DYS389II		
	F*				F				F				F		
	Chakma	Tripura	Khasia		Chakma	Tripura	Khasia		Chakma	Tripura	Khasia		Chakma	Tripura	Khasia
14	0.129	0.141	0.088	11	0.026	-	-	21	0.009	0.030	-	24	-	0.020	-
15	0.716	0.525	0.582	12	0.647	0.566	0.099	22	-	0.030	0.055	26	0.017	-	-
16	0.060	0.273	0.286	13	0.224	0.323	0.659	23	0.397	0.343	0.296	27	0.095	0.162	0.033
17	0.078	0.061	0.044	14	0.103	0.081	0.231	24	0.414	0.485	0.187	28	0.500	0.455	0.209
18	0.017	-	-	15	-	0.030	0.011	25	0.182	0.111	0.429	29	0.234	0.222	0.253
-	-	-	-	-	-	-	-	26	-	-	0.033	30	0.103	0.081	0.395
-	-	-	-	-	-	-	-	-	-	-	-	31	0.034	0.040	0.066
-	-	-	-	-	-	-	-	-	-	-	-	32	0.017	0.010	0.044
-	-	-	-	-	-	-	-	-	-	-	-	33	-	0.010	-
GD*	0.465	0.633	0.576		0.524	0.574	0.508		0.443	0.639	0.697		0.680	0.716	0.737
A	DYS458			A	DYS19			A	DYS393			A	DYS391		
	F				F				F				F		
	Chakma	Tripura	Khasia		Chakma	Tripura	Khasia		Chakma	Tripura	Khasia		Chakma	Tripura	Khasia
14	0.034	-	-	13	0.017	0.010	0.011	11	-	0.010	-	9	-	0.061	-
15	0.043	-	0.154	14	0.552	0.747	0.154	12	0.638	0.788	0.143	10	0.733	0.828	0.659
16	0.112	0.141	0.417	15	0.310	0.162	0.725	13	0.138	0.121	0.340	11	0.258	0.111	0.319
17	0.310	0.424	0.352	16	0.103	0.030	0.110	14	0.155	0.071	0.396	12	0.009	-	0.022
18	0.353	0.303	0.055	17	0.017	0.051	-	15	0.060	0.010	0.110	-	-	-	-
19	0.078	0.101	0.022	-	-	-	-	16	0.009	-	0.011	-	-	-	-
20	0.052	0.030	-	-	-	-	-	-	-	-	-	-	-	-	-
21	0.017	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GD	0.761	0.705	0.682		0.593	0.416	0.443		0.551	0.363	0.703		0.400	0.301	0.469
A	DYS439			AS	DYS635			A	DYS392			A	YGATAH4		
	F				F				F				F		
	Chakma	Tripura	Khasia		Chakma	Tripura	Khasia		Chakma	Tripura	Khasia		Chakma	Tripura	Khasia
10	0.060	0.101	0.132	18	-	-	0.033	10	0.043	-	0.055	10	0.009	0.030	0.121
11	0.405	0.263	0.483	19	0.069	0.010	0.121	11	0.147	0.242	0.264	11	0.233	0.434	0.527
12	0.388	0.505	0.286	20	0.448	0.545	0.132	12	0.103	0.071	0.198	12	0.654	0.364	0.220
13	0.121	0.111	0.088	21	0.284	0.232	0.395	13	0.112	0.111	0.374	13	0.095	0.172	0.132
14	0.026	0.020	0.011	22	0.129	0.040	0.088	14	0.526	0.505	0.099	14	0.009	-	-
-	-	-	-	23	0.052	0.162	0.154	15	0.069	0.071	0.011	-	-	-	-
-	-	-	-	24	0.009	0.010	0.022	-	-	-	-	-	-	-	-
-	-	-	-	25	0.009	-	0.055	-	-	-	-	-	-	-	-
GD	0.672	0.660	0.667		0.700	0.627	0.784		0.678	0.671	0.746		0.513	0.655	0.649
A	DYS437			A	DYS438			A	DYS448						
	F				F				F						
	Chakma	Tripura	Khasia		Chakma	Tripura	Khasia		Chakma	Tripura	Khasia				
14	0.293	0.414	0.725	9	-	0.101	0.077	17	0.009	0.071	0.022				
15	0.655	0.586	0.253	10	0.101	0.242	0.604	18	0.112	0.121	0.385				
16	0.052	-	0.022	11	0.242	0.616	0.297	19	0.361	0.101	0.297				
-	-	-	-	12	0.616	0.030	0.022	20	0.440	0.566	0.209				
-	-	-	-	13	-	0.010	-	21	0.078	0.141	0.077				
-	-	-	-	-	-	-	-	22	-	-	0.011				
GD	0.487	0.490	0.414		0.557	0.556	0.547		0.663	0.636	0.721				
Genotype	DYS385a/b			Genotype	DYS385a/b			Genotype	DYS385a/b						
	Frequency				Frequency				Frequency						
	Chakma	Tripura	Khasia		Chakma	Tripura	Khasia		Chakma	Tripura	Khasia				
8,13	-	0.010	-	12,19	0.026	0.010	-	15,16	0.026	-	0.011				
10,14	-	-	0.044	12,20	-	0.051	-	15,17	0.017	-	0.022				
10,15	-	-	-	13,15	-	-	0.011	15,18	-	0.010	0.022				
10,16	0.052	-	-	13,16	-	-	0.022	15,19	0.017	-	0.077				
11,12	0.017	-	0.033	13,17	0.060	0.061	0.044	15,20	0.017	0.061	0.055				
11,14	0.026	-	0.022	13,18	0.094	0.162	0.044	15,21	0.017	-	0.044				
11,15	-	-	0.022	13,19	0.129	0.152	0.055	15,22	0.009	-	0.011				
11,16	0.009	-	-	13,20	0.129	0.141	-	15,23	-	-	0.033				
11,17	0.034	-	0.033	13,21	0.034	0.010	-	16,17	-	0.020	-				
11,18	0.017	-	0.011	13,22	0.052	0.010	0.011	16,18	-	0.010	-				
12,12	0.026	-	-	14,14	-	-	0.011	16,19	-	-	0.077				
12,13	0.026	-	-	14,16	0.009	0.010	0.011	16,20	0.009	-	-				
12,14	-	-	0.011	14,18	0.009	0.030	0.033	16,21	0.009	-	-				
12,15	-	0.010	-	14,19	0.026	0.212	0.033	17,17	-	-	0.011				
12,16	0.034	-	0.044	14,20	0.017	0.030	0.022	17,20	0.009	-	-				
12,17	0.026	-	0.098	14,21	0.009	-	-	18,18	-	-	0.011				
12,18	-	-	0.011	14,22	0.009	-	-	-	-	-	-				
GD									0.946	0.882	0.964				

A: Allele; F: Frequency of allele; GD: Gene diversity

Supplementary Table S5: Y-STR haplotype matching probabilities within and between the studied populations in Bangladesh

Diversity Parameters	Bengali (Bn)	Chakma (Ck)	Tripura (Tr)	Rakhine (Rk)	Marma (Mr)	Hajong (Hj)	Manipuri (Mn)	Khasia (Kh)
Number of total haplotypes (N^*)	667	150	144	145	138	109	131	110
dw_{\min} (haplotype diversity)	0.998411	0.988800	0.984086	0.986397	0.985192	0.987122	0.981761	0.985537
$mw_{\max} = (1-dw_{\min})$	0.001589	0.011200	0.015914	0.013603	0.014808	0.012878	0.018239	0.014463
mw_{\min}	20/222,111	51/11,175	93/10,296	72/10,440	72/9,453	22/5,886	91/8,515	31/5,995
$mb_{\min} = (1-db_{\max})$	Bn/Ck 0.000 Bn/Tr 0.000 Bn/Rk 0.00008 Bn/Mr 0.00003 Bn/Hj 0.000 Bn/Mn 0.000 Bn/Kh 0.000	Ck/Bn 0.000 Ck/Tr 0.000 Ck/Rk 0.00018 Ck/Mr 0.00019 Ck/Hj 0.000 Ck/Mn 0.000 Ck/Kh 0.000	Tr/Bn 0.000 Tr/Ck 0.000 Tr/Rk 0.00004 Tr/Mr 0.000 Tr/Hj 0.000 Tr/Mn 0.000 Tr/Kh 0.000	Rk/Bn 0.00008 Rk/Ck 0.00018 Rk/Tr 0.00004 Rk/Mr 0.00109 Rk/Hj 0.00012 Rk/Mn 0.000 Rk/Kh 0.000	Mr/Bn 0.00003 Mr/Ck 0.00019 Mr/Tr 0.000 Mr/Rk 0.00109 Mr/Hj 0.000 Mr/Mn 0.000 Mr/Kh 0.00006	Hj/Bn 0.000 Hj/Ck 0.000 Hj/Tr 0.000 Hj/Rk 0.00012 Hj/Mr 0.000 Hj/Mn 0.000 Hj/Kh 0.000	Mn/Bn 0.000 Mn/Ck 0.000 Mn/Tr 0.000 Mn/Rk 0.000 Mn/Mr 0.000 Mn/Hj 0.000 Mn/Kh 0.000	Kh/Bn 0.000 Kh/Ck 0.000 Kh/Tr 0.000 Kh/Rk 0.000 Kh/Mr 0.00006 Kh/Hj 0.000 Kh/Mn 0.000
$db_{\max} = (1-mb_{\min})$	Bn/Ck 1.000 Bn/Tr 1.000 Bn/Rk 0.99991 Bn/Mr 0.99996 Bn/Hj 1.000 Bn/Mn 1.000 Bn/Kh 1.000	Ck/Bn 1.000 Ck/Tr 1.000 Ck/Rk 0.99981 Ck/Mr 0.99980 Ck/Hj 1.000 Ck/Mn 1.000 Ck/Kh 1.000	Tr/Bn 1.000 Tr/Ck 1.000 Tr/Rk 0.99995 Tr/Mr 1.000 Tr/Hj 1.000 Tr/Mn 1.000 Tr/Kh 1.000	Rk/Bn 0.99991 Rk/Ck 0.99981 Rk/Tr 0.99995 Rk/Mr 0.99890 Rk/Hj 0.99987 Rk/Mn 1.000 Rk/Kh 1.000	Mr/Bn 0.99996 Mr/Ck 0.99980 Mr/Tr 1.000 Mr/Rk 0.99890 Mr/Hj 1.000 Mr/Mn 1.000 Mr/Kh 0.99993	Hj/Bn 1.000 Hj/Ck 1.000 Hj/Tr 1.000 Hj/Rk 0.99987 Hj/Mr 1.000 Hj/Mn 1.000 Hj/Kh 1.000	Mn/Bn 1.000 Mn/Ck 1.000 Mn/Tr 1.000 Mn/Rk 1.000 Mn/Mr 1.000 Mn/Hj 1.000 Mn/Kh 1.000	Kh/Bn 1.000 Kh/Ck 1.000 Kh/Tr 1.000 Kh/Rk 1.000 Kh/Mr 0.99993 Kh/Hj 1.000 Kh/Mn 1.000
mw_{\max}/mb_{\min}	Bn/Ck *ND Bn/Tr ND Bn/Rk 19.1908 Bn/Mr 48.7423 Bn/Hj ND Bn/Mn ND Bn/Kh ND	Ck/Bn ND Ck/Tr ND Ck/Rk 60.8695 Ck/Mr 57.9410 Ck/Hj ND Ck/Mn ND Ck/Kh ND	Tr/Bn ND Tr/Ck ND Tr/Rk 332.233 Tr/Mr ND Tr/Hj ND Tr/Mn ND Tr/Kh ND	Rk/Bn 164.287 Rk/Ck 73.9619 Rk/Tr 283.987 Rk/Mr 12.3719 Rk/Hj 107.448 Rk/Mn ND Rk/Kh ND	Mr/Bn 454.233 Mr/Ck 76.6063 Mr/Tr ND Mr/Rk 13.4679 Mr/Hj ND Mr/Mn ND Mr/Kh 224.704	Hj/Bn ND Hj/Ck ND Hj/Tr ND Hj/Rk 101.721 Hj/Mr ND Hj/Mn ND Hj/Kh ND	Mn/Bn ND Mn/Ck ND Mn/Tr ND Mn/Rk ND Mn/Mr ND Mn/Hj ND Mn/Kh ND	Kh/Bn ND Kh/Ck ND Kh/Tr ND Kh/Rk ND Kh/Mr 219.468 Kh/Hj ND Kh/Mn ND
mw_{\min}/mb_{\min}	Bn/Ck ND Bn/Tr ND Bn/Rk 1.08750 Bn/Mr 2.76211 Bn/Hj ND Bn/Mn ND Bn/Kh ND	Ck/Bn ND Ck/Tr ND Ck/Rk 24.8030 Ck/Mr 23.6097 Ck/Hj ND Ck/Mn ND Ck/Kh ND	Tr/Bn ND Tr/Ck ND Tr/Rk 188.572 Tr/Mr ND Tr/Hj ND Tr/Mn ND Tr/Kh ND	Rk/Bn 83.2916 Rk/Ck 37.4812 Rk/Tr 143.978 Rk/Mr 6.27244 Rk/Hj 54.4751 Rk/Mn ND Rk/Kh ND	Mr/Bn 233.638 Mr/Ck 39.4031 Mr/Tr ND Mr/Rk 6.92735 Mr/Hj ND Mr/Mn ND Mr/Kh 115.578	Hj/Bn ND Hj/Ck ND Hj/Tr ND Hj/Rk 29.5235 Hj/Mr ND Hj/Mn ND Hj/Kh ND	Mn/Bn ND Mn/Ck ND Mn/Tr ND Mn/Rk ND Mn/Mr ND Mn/Hj ND Mn/Kh ND	Kh/Bn ND Kh/Ck ND Kh/Tr ND Kh/Rk ND Kh/Mr 78.4670 Kh/Hj ND Kh/Mn ND

* N Excludes samples carrying null alleles and duplicated loci, *ND No data. If, no haplotype match between two populations, the value of the db_{\max} will be 1 and the value of the mb_{\min} will be 0. Any value cannot be divided by Zero (0).

Supplementary Table S7: Frequency distribution of Y-chromosomal haplogroups in the populations of Bangladesh.

Haplogroups	Populations									
	Bengali	*Chakma	*Tripura	Rakhine	Marma	Hajong	Manipuri	*Khasia	Garo	Santal
E1b1a	8 (1.233)	1 (0.862)	-	-	-	-	6 (6.122)	-	2 (2.020)	8 (6.202)
E1b1b	9 (1.387)	1 (0.862)	8 (8.081)	3 (2.727)	-	1 (1.124)	7 (7.143)	-	3 (3.030)	2 (1.550)
G2a	7 (1.079)	4 (3.448)	1 (1.010)	3 (2.727)	2 (1.869)	2 (2.247)	-	5 (5.494)	3 (3.030)	5 (3.876)
H	115 (17.720)	5 (4.310)	3 (3.030)	8 (7.273)	7 (6.542)	3 (3.371)	3 (3.061)	2 (2.198)	4 (4.040)	16 (12.403)
I1	1 (0.154)	3 (2.586)	-	-	-	-	-	-	-	-
I2a (xI2a1)	1 (0.154)	3 (2.586)	3 (3.030)	-	2 (1.869)	2 (2.247)	-	-	1 (1.010)	2 (1.550)
I2a1	12 (1.849)	1 (0.862)	-	-	-	1 (1.124)	-	-	-	-
I2b (xI2b1)	1 (0.154)	-	-	-	-	-	-	-	-	-
I2b1	12 (1.849)	-	-	2 (1.818)	-	-	-	9 (9.890)	3 (3.030)	7 (5.426)
J1	12 (1.849)	11 (9.483)	14 (14.141)	5 (4.545)	6 (5.607)	1 (1.124)	2 (2.041)	2 (2.198)	7 (7.071)	2 (1.550)
J2a1b	20 (3.082)	-	1 (1.010)	2 (1.818)	5 (4.673)	-	-	4 (4.395)	1 (1.010)	3 (2.326)
J2a1h	6 (0.924)	1 (0.862)	-	-	1 (0.935)	-	-	2 (2.198)	-	-
J2a1 x J2a1-bh	32 (4.931)	-	8 (8.081)	5 (4.545)	-	-	4 (4.082)	3 (3.297)	4 (4.040)	1 (0.775)
J2b	32 (4.931)	-	-	2 (1.818)	2 (1.869)	2 (2.247)	1 (1.020)	-	1 (1.010)	1 (0.775)
L	113 (17.410)	61 (52.586)	56 (56.566)	40 (36.364)	32 (29.907)	53 (59.550)	46 (46.939)	23 (25.275)	38 (38.384)	7 (5.426)
N	3 (0.462)	2 (1.724)	-	-	4 (3.738)	-	-	1 (1.099)	1 (1.010)	-
Q	45 (6.934)	16 (13.793)	4 (4.040)	16 (14.545)	30 (28.037)	5 (5.618)	16 (16.327)	14 (15.385)	16 (16.162)	38 (29.457)
R1a	205 (31.587)	5 (4.310)	-	21 (19.091)	11 (10.280)	10 (11.235)	13 (13.265)	10 (10.989)	9 (9.091)	13 (10.078)
R1b	4 (0.616)	-	-	-	-	1 (1.124)	-	-	-	-
T	11 (1.695)	2 (1.724)	1 (1.010)	3 (2.727)	5 (4.673)	8 (8.989)	-	16 (17.582)	6 (6.061)	24 (18.605)
Number of different haplotypes	649 (100%)	116 (100%)	99 (100%)	110 (100%)	107 (100%)	89 (100%)	98 (100%)	91 (100%)	99 (100%)	129 (100%)

*Asterisk marks indicates the studied populations (Chakma, Tripura, and Khasia).