

1 **Supplementary data**

2 **Table S1:** GPS predicted coordinates of individuals from five SAS populations

| <b>Sample id</b> | <b>Population</b> | <b>Genetically closest reference individual (from Moorjani et al. 2013 and HGDP)</b> | <b>GPS predicted Latitude</b> | <b>GPS predicted Longitude</b> |
|------------------|-------------------|--------------------------------------------------------------------------------------|-------------------------------|--------------------------------|
| NA20845          | GIH               | Vaish_132_R1                                                                         | 25.7053214                    | 81.8308755                     |
| NA20846          | GIH               | KSHA_UP3M                                                                            | 25.91815                      | 80.8574006                     |
| NA20847          | GIH               | KSHA_UP4S                                                                            | 25.2954855                    | 80.0223729                     |
| NA20849          | GIH               | KSHA_UP4S                                                                            | 25.3763908                    | 80.0461121                     |
| NA20850          | GIH               | Kashmiri_Pandit_123_R1                                                               | 33.5182411                    | 76.5875847                     |
| NA20851          | GIH               | KSHA_UP4S                                                                            | 25.339942                     | 80.04426                       |
| NA20852          | GIH               | KSHA_UP3M                                                                            | 26.3957595                    | 80.0302172                     |
| NA20853          | GIH               | KSHA_UP4S                                                                            | 25.3152389                    | 80.0326651                     |
| NA20854          | GIH               | KSHA_UP5F                                                                            | 26.5525596                    | 81.4564836                     |
| NA20856          | GIH               | KSHA_UP4S                                                                            | 26.4232219                    | 80.1624404                     |
| NA20858          | GIH               | PAND_JK5D                                                                            | 33.4735619                    | 75.1227662                     |
| NA20859          | GIH               | KSHA_UP4S                                                                            | 25.2461313                    | 80.0108907                     |
| NA20861          | GIH               | KSHA_UP4S                                                                            | 24.4346099                    | 79.7965519                     |
| NA20862          | GIH               | PAND_JK5M                                                                            | 33.3752459                    | 76.4537832                     |
| NA20863          | GIH               | KSHA_UP4S                                                                            | 25.3570876                    | 80.0488964                     |
| NA20864          | GIH               | BRAH_UP3M                                                                            | 26.4275031                    | 81.9238292                     |
| NA20866          | GIH               | KSHA_UP4M                                                                            | 26.3887982                    | 80.0989162                     |
| NA20867          | GIH               | KSHA_UP4S                                                                            | 25.3822221                    | 80.0403137                     |
| NA20868          | GIH               | KSHA_UP4S                                                                            | 25.2875528                    | 80.021263                      |
| NA20869          | GIH               | KSHA_UP4S                                                                            | 25.2859732                    | 80.0198835                     |
| NA20870          | GIH               | HGDP00230Pathan                                                                      | 32.7905961                    | 70.3669868                     |
| NA20872          | GIH               | KSHA_RJ02                                                                            | 27.7422634                    | 74.8644206                     |
| NA20874          | GIH               | Meghawal_119_R2                                                                      | 26.0639216                    | 73.2454748                     |
| NA20875          | GIH               | KSHA_UP4S                                                                            | 24.115395                     | 79.9033297                     |
| NA20876          | GIH               | KSHA_UP4S                                                                            | 26.4063344                    | 80.1312768                     |
| NA20877          | GIH               | KSHA_UP4S                                                                            | 26.4025809                    | 80.1243503                     |
| NA20878          | GIH               | KSHA_UP4S                                                                            | 25.2825091                    | 80.0168785                     |
| NA20881          | GIH               | BRAH_UP3M                                                                            | 26.4545783                    | 82.2933113                     |
| NA20882          | GIH               | BRAH_UP2F                                                                            | 26.3150399                    | 82.2961161                     |
| NA20884          | GIH               | KSHA_UP4S                                                                            | 24.4630029                    | 79.7971512                     |
| NA20885          | GIH               | Vaish_133_R1                                                                         | 26.1827798                    | 82.4661992                     |
| NA20886          | GIH               | BRAH_UP2S                                                                            | 26.6178217                    | 82.8317037                     |
| NA20887          | GIH               | KSHA_UP1M                                                                            | 26.6248189                    | 80.3713858                     |
| NA20888          | GIH               | KSHA_UP4S                                                                            | 24.5058295                    | 79.8145983                     |
| NA20889          | GIH               | KSHA_UP4S                                                                            | 26.4259183                    | 80.1674162                     |
| NA20890          | GIH               | BRAH_UP3M                                                                            | 26.2297886                    | 82.8581834                     |
| NA20891          | GIH               | BRAH_UP2F                                                                            | 26.2235489                    | 83.0084329                     |
| NA20892          | GIH               | KSHA_UP4S                                                                            | 25.3780806                    | 80.0647997                     |

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|------------------|-------------------|--------------------------------------------------------------------------------------|-------------------------------|--------------------------------|
| NA20894          | GIH               | Vaish_132_R1                                                                         | 25.8700261                    | 81.7406937                     |
| NA20895          | GIH               | KSHA_UP3M                                                                            | 26.5817171                    | 80.4221885                     |
| NA20896          | GIH               | KSHA_UP4S                                                                            | 25.3085947                    | 80.0341705                     |
| NA20897          | GIH               | KALL_TN01                                                                            | 13.217453                     | 78.5656215                     |
| NA20899          | GIH               | KSHA_UP4S                                                                            | 25.2562669                    | 80.0094379                     |
| NA20900          | GIH               | BRAH_UP2F                                                                            | 26.2366352                    | 82.9183761                     |
| NA20901          | GIH               | JAIN_GU01                                                                            | 22.1993046                    | 72.5649649                     |
| NA20902          | GIH               | KSHA_UP4S                                                                            | 25.2644283                    | 80.0079237                     |
| NA20903          | GIH               | KSHA_UP3F                                                                            | 26.1634928                    | 79.6831465                     |
| NA20904          | GIH               | HGDP00201Sindhi                                                                      | 26.1640895                    | 69.6878258                     |
| NA20905          | GIH               | JAIN_GU01                                                                            | 22.1881528                    | 72.5706879                     |
| NA20906          | GIH               | Naidu_177_R2                                                                         | 13.9251453                    | 78.7036711                     |
| NA20908          | GIH               | BHIL_MP03                                                                            | 22.1870912                    | 73.1570531                     |
| NA20910          | GIH               | HGDP00239Pathan                                                                      | 32.9084052                    | 71.0451086                     |
| NA20911          | GIH               | KSHA_UP4S                                                                            | 25.447549                     | 80.0544688                     |
| NA21086          | GIH               | KSHA_UP4S                                                                            | 24.4269093                    | 79.9287296                     |
| NA21087          | GIH               | KSHA_UP4S                                                                            | 24.067551                     | 79.8630805                     |
| NA21088          | GIH               | KSHA_UP4S                                                                            | 26.4181748                    | 80.1531266                     |
| NA21089          | GIH               | KSHA_UP4S                                                                            | 25.3539049                    | 80.0348765                     |
| NA21090          | GIH               | KSHA_UP4S                                                                            | 24.4074828                    | 79.7829577                     |
| NA21091          | GIH               | KSHA_UP4S                                                                            | 25.3328417                    | 80.0134216                     |
| NA21092          | GIH               | Srivastava_198_R2                                                                    | 23.178739                     | 81.8034143                     |
| NA21093          | GIH               | KSHA_UP4S                                                                            | 25.3061326                    | 80.0315697                     |
| NA21094          | GIH               | KSHA_UP4S                                                                            | 25.3512167                    | 80.0327709                     |
| NA21095          | GIH               | JAIN_GU01                                                                            | 22.1360036                    | 72.6363441                     |
| NA21097          | GIH               | JAIN_GU05                                                                            | 22.2097943                    | 72.5725717                     |
| NA21098          | GIH               | KSHA_UP4S                                                                            | 24.5178412                    | 79.8190677                     |
| NA21099          | GIH               | KSHA_UP4S                                                                            | 26.4287413                    | 80.1726257                     |
| NA21100          | GIH               | KSHA_UP4S                                                                            | 25.2952799                    | 80.0259309                     |
| NA21101          | GIH               | KSHA_UP4S                                                                            | 24.4589957                    | 79.8674074                     |
| NA21102          | GIH               | KSHA_UP4S                                                                            | 24.0969129                    | 79.8738012                     |
| NA21103          | GIH               | KSHA_UP4S                                                                            | 25.3172842                    | 80.0341701                     |
| NA21104          | GIH               | KSHA_UP4S                                                                            | 25.2893437                    | 80.0200174                     |
| NA21105          | GIH               | KSHA_UP4S                                                                            | 26.419553                     | 80.1556699                     |
| NA21106          | GIH               | KSHA_UP4S                                                                            | 25.3651778                    | 80.0392815                     |
| NA21107          | GIH               | KSHA_UP4S                                                                            | 26.4317314                    | 80.1781435                     |
| NA21108          | GIH               | Kashmiri_Pandit_125_R1                                                               | 33.6423778                    | 76.4789876                     |
| NA21109          | GIH               | KSHA_UP4S                                                                            | 25.3021602                    | 80.0245631                     |
| NA21110          | GIH               | KSHA_UP4S                                                                            | 25.2966235                    | 80.0255497                     |
| NA21111          | GIH               | KSHA_UP4S                                                                            | 26.4306112                    | 80.1760764                     |
| NA21112          | GIH               | KSHA_UP4S                                                                            | 25.2815013                    | 80.0235469                     |

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|------------------|-------------------|--------------------------------------------------------------------------------------|-------------------------------|--------------------------------|
| NA21113          | GIH               | KSHA_UP4S                                                                            | 24.0963733                    | 79.8950045                     |
| NA21114          | GIH               | KSHA_UP4S                                                                            | 26.3964101                    | 80.1129631                     |
| NA21115          | GIH               | KSHA_UP4S                                                                            | 25.3317089                    | 80.0419788                     |
| NA21116          | GIH               | JAIN_GU03                                                                            | 22.5735321                    | 73.1212399                     |
| NA21117          | GIH               | KSHA_UP4S                                                                            | 26.411494                     | 80.1407982                     |
| NA21118          | GIH               | KSHA_UP4S                                                                            | 25.2665857                    | 80.0086407                     |
| NA21119          | GIH               | KSHA_UP4S                                                                            | 25.2793209                    | 80.0142167                     |
| NA21120          | GIH               | KSHA_UP1F                                                                            | 26.576936                     | 80.3674752                     |
| NA21122          | GIH               | KSHA_UP4S                                                                            | 25.2977678                    | 80.0265962                     |
| NA21123          | GIH               | KSHA_UP4S                                                                            | 26.4046565                    | 80.1281806                     |
| NA21124          | GIH               | KSHA_UP4S                                                                            | 26.4199456                    | 80.1563945                     |
| NA21125          | GIH               | KSHA_UP4S                                                                            | 25.3095468                    | 80.0321118                     |
| NA21126          | GIH               | KSHA_UP4S                                                                            | 25.3239699                    | 80.0276099                     |
| NA21127          | GIH               | KSHA_UP4S                                                                            | 25.346621                     | 80.0440759                     |
| NA21128          | GIH               | KSHA_UP4S                                                                            | 25.3440262                    | 80.0402684                     |
| NA21129          | GIH               | KSHA_UP4S                                                                            | 25.2867412                    | 80.0255767                     |
| NA21130          | GIH               | KSHA_UP4S                                                                            | 26.4097974                    | 80.1376674                     |
| NA21133          | GIH               | KSHA_UP4S                                                                            | 25.2737974                    | 80.0146392                     |
| NA21135          | GIH               | KSHA_UP4S                                                                            | 25.2613188                    | 80.0063054                     |
| NA21137          | GIH               | KSHA_UP4S                                                                            | 25.3064402                    | 80.0203196                     |
| NA21141          | GIH               | KSHA_UP4S                                                                            | 25.2879037                    | 80.0223609                     |
| NA21142          | GIH               | KSHA_UP4S                                                                            | 25.3659633                    | 80.0611091                     |
| NA21143          | GIH               | KSHA_UP4S                                                                            | 25.3113031                    | 80.0350522                     |
| NA21144          | GIH               | KSHA_UP4S                                                                            | 25.3041983                    | 80.0285709                     |
| HG01583          | PJL               | BRAH_UP2F                                                                            | 26.1823444                    | 82.9854111                     |
| HG01586          | PJL               | BRAH_UP3M                                                                            | 26.4588065                    | 82.5138339                     |
| HG01589          | PJL               | PAND_JK5D                                                                            | 33.6969452                    | 76.4296392                     |
| HG01593          | PJL               | HGDP00201Sindhi                                                                      | 25.8714173                    | 69.7391366                     |
| HG02490          | PJL               | HGDP00169Sindhi                                                                      | 26.5953092                    | 69.7013976                     |
| HG02491          | PJL               | HGDP00070Balochi                                                                     | 29.7527623                    | 67.7140349                     |
| HG02493          | PJL               | HGDP00169Sindhi                                                                      | 26.1248397                    | 69.1925535                     |
| HG02494          | PJL               | PAND_JK5M                                                                            | 33.3717715                    | 75.2203745                     |
| HG02597          | PJL               | KSHA_RJ02                                                                            | 26.8718969                    | 75.1988938                     |
| HG02600          | PJL               | JEWS_KE05                                                                            | 11.002077                     | 76.4702725                     |
| HG02601          | PJL               | Meghawal_113_R1                                                                      | 25.4577438                    | 73.2356033                     |
| HG02603          | PJL               | Tharu_104_R1                                                                         | 28.8128057                    | 80.3361191                     |
| HG02604          | PJL               | HGDP00167Sindhi                                                                      | 25.9165391                    | 69.0781011                     |
| HG02648          | PJL               | HGDP00258Pathan                                                                      | 32.7202735                    | 71.1337218                     |
| HG02649          | PJL               | HGDP00230Pathan                                                                      | 32.5518647                    | 70.3222246                     |
| HG02651          | PJL               | KSHA_RJ01                                                                            | 27.290974                     | 76.6012722                     |
| HG02652          | PJL               | BRAH_UP3S                                                                            | 26.5188305                    | 82.3812464                     |

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|------------------|-------------------|--------------------------------------------------------------------------------------|-------------------------------|--------------------------------|
| HG02654          | PJL               | HGDP00189Sindhi                                                                      | 25.9756789                    | 69.290624                      |
| HG02655          | PJL               | HGDP00210Sindhi                                                                      | 26.2277684                    | 69.1364566                     |
| HG02657          | PJL               | Meghawal_119_R2                                                                      | 26.3700134                    | 74.3372076                     |
| HG02658          | PJL               | HGDP00070Balochi                                                                     | 29.8848781                    | 67.9163964                     |
| HG02660          | PJL               | BRAH_UP2F                                                                            | 26.4555556                    | 82.9096567                     |
| HG02661          | PJL               | Tharu_104_R1                                                                         | 28.5663721                    | 80.1336187                     |
| HG02681          | PJL               | HGDP00203Sindhi                                                                      | 26.1648116                    | 70.1266601                     |
| HG02682          | PJL               | HGDP00205Sindhi                                                                      | 25.7656023                    | 70.2790352                     |
| HG02684          | PJL               | Hallaki_140_R2                                                                       | 13.7409733                    | 75.0792289                     |
| HG02685          | PJL               | KVGO_TN04                                                                            | 12.4494192                    | 77.228349                      |
| HG02687          | PJL               | Naidu_177_R2                                                                         | 13.9278888                    | 78.7055157                     |
| HG02688          | PJL               | BHIL_MP05                                                                            | 22.4755767                    | 73.0278908                     |
| HG02690          | PJL               | HGDP00183Sindhi                                                                      | 26.0263305                    | 69.098687                      |
| HG02691          | PJL               | HGDP00210Sindhi                                                                      | 25.5394098                    | 69.1165195                     |
| HG02694          | PJL               | HGDP00187Sindhi                                                                      | 26.3447026                    | 69.1583817                     |
| HG02696          | PJL               | JAIN_GU02                                                                            | 22.4731792                    | 72.7756616                     |
| HG02697          | PJL               | PAND_JK5M                                                                            | 33.3846573                    | 75.4154846                     |
| HG02699          | PJL               | KSHA_RJ04                                                                            | 27.5493036                    | 75.0895541                     |
| HG02700          | PJL               | HGDP00208Sindhi                                                                      | 25.9793009                    | 69.7802418                     |
| HG02724          | PJL               | MADI_AP3M                                                                            | 18.364046                     | 78.4696921                     |
| HG02725          | PJL               | BHIL_MP05                                                                            | 22.0644482                    | 73.1959255                     |
| HG02727          | PJL               | BHIL_MP01                                                                            | 22.4599064                    | 73.0665739                     |
| HG02728          | PJL               | Naidu_177_R2                                                                         | 14.0139625                    | 78.0564611                     |
| HG02731          | PJL               | HGDP00070Balochi                                                                     | 29.6090412                    | 67.4753508                     |
| HG02733          | PJL               | BRAH_UP2F                                                                            | 26.5784031                    | 82.8100214                     |
| HG02734          | PJL               | HGDP00167Sindhi                                                                      | 26.0094315                    | 69.0955184                     |
| HG02736          | PJL               | PAND_JK5M                                                                            | 33.2022005                    | 75.5477528                     |
| HG02737          | PJL               | HGDP00203Sindhi                                                                      | 26.2137449                    | 69.9736185                     |
| HG02774          | PJL               | JEWS_KE02                                                                            | 11.2820458                    | 75.9701508                     |
| HG02775          | PJL               | BHIL_MP01                                                                            | 22.2243735                    | 73.2537634                     |
| HG02778          | PJL               | BHIL_MP05                                                                            | 22.5461848                    | 73.2465348                     |
| HG02780          | PJL               | BHIL_MP05                                                                            | 22.5435395                    | 73.0844277                     |
| HG02783          | PJL               | KVGO_TN05                                                                            | 11.8630792                    | 77.5127416                     |
| HG02784          | PJL               | BHIL_MP03                                                                            | 23.0593946                    | 73.2207755                     |
| HG02786          | PJL               | MADI_AP3M                                                                            | 17.4299563                    | 79.720636                      |
| HG02787          | PJL               | Naidu_178_R2                                                                         | 13.6649049                    | 78.5728297                     |
| HG02789          | PJL               | BHIL_MP05                                                                            | 22.6070941                    | 73.5845454                     |
| HG02790          | PJL               | Naidu_178_R2                                                                         | 13.6834783                    | 78.5660602                     |
| HG02792          | PJL               | NARI_TN02                                                                            | 13.3502255                    | 79.4193573                     |
| HG02793          | PJL               | Naidu_177_R2                                                                         | 13.764989                     | 78.2930505                     |
| HG03015          | PJL               | KVGO_TN03                                                                            | 12.0564201                    | 77.4499796                     |

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| HG03016          | PJL               | Naidu_178_R2                                                                         | 13.6444893                    | 78.3001682                     |
| HG03018          | PJL               | KVGO_TN04                                                                            | 12.1732173                    | 77.5138057                     |
| HG03019          | PJL               | Kurumba_44_R1                                                                        | 11.3593075                    | 76.3439469                     |
| HG03021          | PJL               | Naidu_178_R2                                                                         | 13.7683191                    | 78.5150933                     |
| HG03022          | PJL               | JEWS_KE05                                                                            | 11.0846632                    | 76.0837222                     |
| HG03228          | PJL               | Hallaki_139_R2                                                                       | 14.4962984                    | 74.4686971                     |
| HG03229          | PJL               | Hallaki_140_R2                                                                       | 14.3918662                    | 75.0269646                     |
| HG03234          | PJL               | PAND_JK5M                                                                            | 33.2282032                    | 75.8264382                     |
| HG03235          | PJL               | BRAH_UP2S                                                                            | 26.5892155                    | 82.5110664                     |
| HG03237          | PJL               | HGDP00189Sindhi                                                                      | 26.0734696                    | 69.5319943                     |
| HG03238          | PJL               | HGDP00189Sindhi                                                                      | 26.197422                     | 69.1520856                     |
| HG03488          | PJL               | BRAH_UP2F                                                                            | 26.1391003                    | 83.2183696                     |
| HG03490          | PJL               | HGDP00201Sindhi                                                                      | 26.3318365                    | 69.7371227                     |
| HG03491          | PJL               | KVGO_TN02                                                                            | 12.7312614                    | 77.5077434                     |
| HG03619          | PJL               | HGDP00228Pathan                                                                      | 32.7532708                    | 70.3599883                     |
| HG03624          | PJL               | HGDP00201Sindhi                                                                      | 26.7419867                    | 69.9135747                     |
| HG03625          | PJL               | HGDP00230Pathan                                                                      | 33.0623861                    | 70.4179474                     |
| HG03629          | PJL               | KSHA_RJ01                                                                            | 27.4804729                    | 76.1086468                     |
| HG03631          | PJL               | BRAH_UP3M                                                                            | 26.3807879                    | 81.8460913                     |
| HG03634          | PJL               | HGDP00208Sindhi                                                                      | 26.0818871                    | 69.9382845                     |
| HG03636          | PJL               | BRAH_UP3M                                                                            | 26.5292318                    | 82.4258978                     |
| HG03640          | PJL               | KURU_KE02                                                                            | 12.443413                     | 76.0091181                     |
| HG03649          | PJL               | Vaish_135_R1                                                                         | 25.9152046                    | 81.585823                      |
| HG03652          | PJL               | JEWS_KE05                                                                            | 10.8917309                    | 76.2993721                     |
| HG03653          | PJL               | JAIN_GU02                                                                            | 22.4344972                    | 72.7069199                     |
| HG03660          | PJL               | Hallaki_145_R2                                                                       | 14.6706527                    | 74.4283699                     |
| HG03663          | PJL               | KURU_KE02                                                                            | 12.1283483                    | 75.9087494                     |
| HG03667          | PJL               | KURU_KE04                                                                            | 12.3879288                    | 75.8777892                     |
| HG03668          | PJL               | Meghawal_119_R2                                                                      | 25.3049961                    | 73.4513707                     |
| HG03702          | PJL               | SHER_WB01                                                                            | 26.7377164                    | 87.3556791                     |
| HG03703          | PJL               | SHER_WB01                                                                            | 26.712657                     | 87.370311                      |
| HG03705          | PJL               | Naidu_178_R2                                                                         | 13.8755877                    | 78.6283673                     |
| HG03706          | PJL               | KVGO_TN04                                                                            | 12.2601923                    | 77.2230456                     |
| HG03708          | PJL               | HGDP00070Balochi                                                                     | 29.8784596                    | 67.5287054                     |
| HG03709          | PJL               | BHIL_MP02                                                                            | 22.1949841                    | 72.9546922                     |
| HG03762          | PJL               | Kurumba_43_R1                                                                        | 11.3461788                    | 76.668101                      |
| HG03765          | PJL               | BRAH_UP3M                                                                            | 26.519193                     | 82.676502                      |
| HG03767          | PJL               | HGDP00262Pathan                                                                      | 32.6799373                    | 70.3462383                     |
| HG03713          | ITU               | JEWS_KE05                                                                            | 10.4631596                    | 76.1849113                     |
| HG03714          | ITU               | JEWS_KE05                                                                            | 10.7494978                    | 76.1307904                     |
| HG03716          | ITU               | Vaish_132_R1                                                                         | 25.5428255                    | 81.9031914                     |

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|------------------|-------------------|--------------------------------------------------------------------------------------|-------------------------------|--------------------------------|
| HG03717          | ITU               | Vysya_155_R2                                                                         | 14.68                         | 77.65                          |
| HG03718          | ITU               | Vysya_155_R2                                                                         | 14.68                         | 77.65                          |
| HG03720          | ITU               | KURU_KE01                                                                            | 12.5840562                    | 75.8100067                     |
| HG03722          | ITU               | Bhil_94_R1                                                                           | 22.0302958                    | 73.0479749                     |
| HG03727          | ITU               | SHER_WB01                                                                            | 26.8764917                    | 87.6973486                     |
| HG03729          | ITU               | Hallaki_143_R2                                                                       | 13.5884408                    | 75.0263517                     |
| HG03730          | ITU               | MADI_AP1F                                                                            | 17.4602885                    | 78.8752236                     |
| HG03731          | ITU               | KVGO_TN01                                                                            | 11.5856745                    | 77.5210428                     |
| HG03742          | ITU               | KURU_KE03                                                                            | 12.2259467                    | 75.5586224                     |
| HG03770          | ITU               | KALL_TN02                                                                            | 12.6400616                    | 77.8631383                     |
| HG03771          | ITU               | KURU_KE05                                                                            | 12.4226855                    | 75.8520276                     |
| HG03772          | ITU               | Vysya_153_R2                                                                         | 14.68                         | 77.65                          |
| HG03773          | ITU               | Vysya_153_R2                                                                         | 14.68                         | 77.65                          |
| HG03774          | ITU               | KVGO_TN03                                                                            | 12.0845333                    | 77.5132611                     |
| HG03775          | ITU               | Hallaki_145_R2                                                                       | 14.3436943                    | 74.3666337                     |
| HG03777          | ITU               | KVGO_TN05                                                                            | 11.5270228                    | 77.6557275                     |
| HG03778          | ITU               | Naidu_180_R2                                                                         | 13.7796573                    | 78.2170462                     |
| HG03779          | ITU               | Naidu_177_R2                                                                         | 13.8090751                    | 78.5204843                     |
| HG03780          | ITU               | KVGO_TN02                                                                            | 11.9326843                    | 77.4580764                     |
| HG03781          | ITU               | Lodi_203_R2                                                                          | 26.4003205                    | 82.7747629                     |
| HG03782          | ITU               | KVGO_TN02                                                                            | 11.7474792                    | 77.6140332                     |
| HG03784          | ITU               | Vysya_153_R2                                                                         | 14.68                         | 77.65                          |
| HG03785          | ITU               | Vysya_153_R2                                                                         | 14.68                         | 77.65                          |
| HG03786          | ITU               | Vysya_148_R2                                                                         | 14.68                         | 77.65                          |
| HG03787          | ITU               | Bhil_94_R1                                                                           | 22.4129202                    | 72.9290391                     |
| HG03788          | ITU               | BHIL_MP01                                                                            | 22.4111                       | 73.0136824                     |
| HG03789          | ITU               | JEWS_KE05                                                                            | 11.0759652                    | 76.3402512                     |
| HG03790          | ITU               | Velama_181_R2                                                                        | 16.1223659                    | 75.2553097                     |
| HG03792          | ITU               | KVGO_TN03                                                                            | 11.9447059                    | 77.39473                       |
| HG03861          | ITU               | Vysya_146_R2                                                                         | 14.68                         | 77.65                          |
| HG03862          | ITU               | KVGO_TN03                                                                            | 11.9609336                    | 77.4305174                     |
| HG03863          | ITU               | Hallaki_145_R2                                                                       | 14.3589945                    | 74.4205592                     |
| HG03864          | ITU               | Velama_181_R2                                                                        | 16.1281408                    | 75.548968                      |
| HG03866          | ITU               | KVGO_TN05                                                                            | 12.1325422                    | 77.4774311                     |
| HG03867          | ITU               | BHIL_GU01                                                                            | 22.3740597                    | 73.0508262                     |
| HG03868          | ITU               | KVGO_TN02                                                                            | 11.9692738                    | 77.8483583                     |
| HG03869          | ITU               | BHIL_MP02                                                                            | 22.2894806                    | 72.967991                      |
| HG03870          | ITU               | Hallaki_143_R2                                                                       | 14.3108616                    | 74.3829447                     |
| HG03871          | ITU               | Velama_181_R2                                                                        | 16.0602436                    | 75.6280244                     |
| HG03872          | ITU               | BHIL_MP01                                                                            | 22.9691516                    | 72.7627116                     |
| HG03873          | ITU               | KALL_TN04                                                                            | 11.4800239                    | 78.2330012                     |

| <b>Sample id</b> | <b>Population</b> | <b>Genetically closest reference individual (from Moorjani et al. 2013 and HGDP)</b> | <b>GPS predicted Latitude</b> | <b>GPS predicted Longitude</b> |
|------------------|-------------------|--------------------------------------------------------------------------------------|-------------------------------|--------------------------------|
| HG03874          | ITU               | BHIL_MP01                                                                            | 22.4158487                    | 73.335098                      |
| HG03875          | ITU               | JEWS_KE02                                                                            | 10.8017062                    | 76.0951052                     |
| HG03882          | ITU               | Hallaki_143_R2                                                                       | 14.4863902                    | 74.234862                      |
| HG03960          | ITU               | KALL_TN03                                                                            | 12.401105                     | 77.6840105                     |
| HG03963          | ITU               | KALL_TN03                                                                            | 12.0491615                    | 78.0459912                     |
| HG03965          | ITU               | KURU_KE03                                                                            | 11.9821604                    | 75.9169819                     |
| HG03967          | ITU               | KVGO_TN01                                                                            | 12.1164019                    | 77.2786812                     |
| HG03968          | ITU               | Velama_183_R2                                                                        | 16.5412828                    | 75.7983515                     |
| HG03969          | ITU               | Velama_183_R2                                                                        | 16.4047257                    | 75.8240831                     |
| HG03971          | ITU               | Hallaki_143_R2                                                                       | 13.7136398                    | 74.9681828                     |
| HG03973          | ITU               | Lodi_203_R2                                                                          | 26.2327618                    | 82.8149912                     |
| HG03974          | ITU               | Hallaki_143_R2                                                                       | 14.2041889                    | 74.9102285                     |
| HG03976          | ITU               | KURU_KE04                                                                            | 12.3874597                    | 75.7608083                     |
| HG03977          | ITU               | MADI_AP4M                                                                            | 17.5583384                    | 79.1649722                     |
| HG03978          | ITU               | Kamsali_194_R2                                                                       | 14.9728278                    | 77.4790162                     |
| HG04001          | ITU               | KURU_KE05                                                                            | 12.0342708                    | 76.0419263                     |
| HG04002          | ITU               | KURU_KE04                                                                            | 12.9549597                    | 75.3873498                     |
| HG04014          | ITU               | VEDD_SL03                                                                            | 8.92050172                    | 80.0431883                     |
| HG04015          | ITU               | Naidu_176_R2                                                                         | 13.2825669                    | 78.7000609                     |
| HG04017          | ITU               | Vysya_155_R2                                                                         | 14.68                         | 77.65                          |
| HG04018          | ITU               | Hallaki_143_R2                                                                       | 14.4889921                    | 74.2972676                     |
| HG04019          | ITU               | Velama_181_R2                                                                        | 16.891924                     | 75.7870173                     |
| HG04020          | ITU               | Hallaki_140_R2                                                                       | 13.7794394                    | 74.7902643                     |
| HG04022          | ITU               | KURU_KE03                                                                            | 12.412615                     | 75.9806472                     |
| HG04023          | ITU               | Vysya_153_R2                                                                         | 14.68                         | 77.65                          |
| HG04025          | ITU               | Vysya_155_R2                                                                         | 14.68                         | 77.65                          |
| HG04026          | ITU               | Vysya_153_R2                                                                         | 14.68                         | 77.65                          |
| HG04054          | ITU               | Vysya_153_R2                                                                         | 14.68                         | 77.65                          |
| HG04056          | ITU               | Vysya_148_R2                                                                         | 14.68                         | 77.65                          |
| HG04059          | ITU               | Naidu_180_R2                                                                         | 15.4276309                    | 78.9408982                     |
| HG04060          | ITU               | JEWS_KE05                                                                            | 11.503674                     | 76.5704318                     |
| HG04061          | ITU               | Madiga_164_R2                                                                        | 17.7655102                    | 79.2944104                     |
| HG04062          | ITU               | MADI_AP1M                                                                            | 17.711694                     | 79.2389862                     |
| HG04063          | ITU               | Vysya_146_R2                                                                         | 14.68                         | 77.65                          |
| HG04070          | ITU               | KURU_KE04                                                                            | 12.6019566                    | 75.9396504                     |
| HG04076          | ITU               | Hallaki_145_R2                                                                       | 13.6130851                    | 74.8582779                     |
| HG04080          | ITU               | JEWS_KE05                                                                            | 10.860522                     | 76.1326499                     |
| HG04090          | ITU               | Naidu_178_R2                                                                         | 13.5670943                    | 78.6154922                     |
| HG04093          | ITU               | Hallaki_145_R2                                                                       | 14.2933818                    | 74.4614135                     |
| HG04094          | ITU               | KURU_KE05                                                                            | 12.9353669                    | 75.4368414                     |
| HG04096          | ITU               | Vysya_148_R2                                                                         | 14.68                         | 77.65                          |

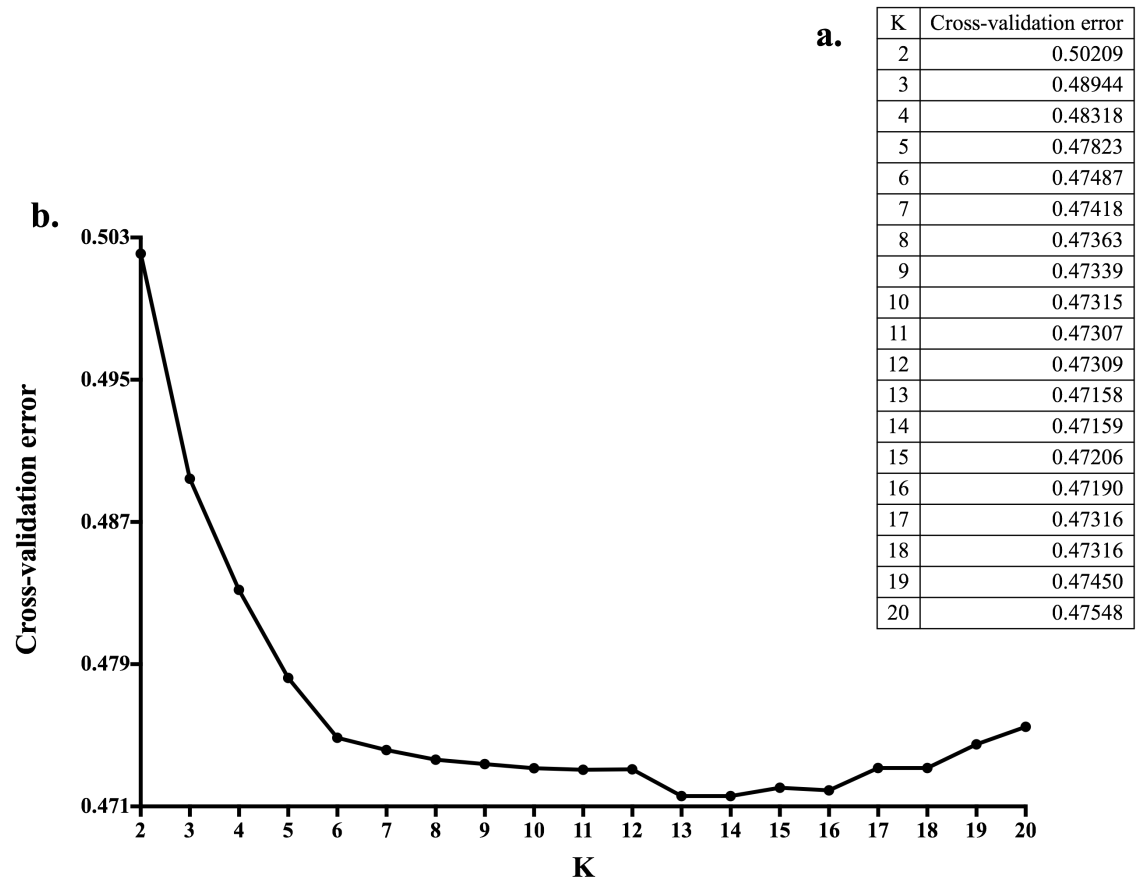
| <b>Sample id</b> | <b>Population</b> | <b>Genetically closest reference individual (from Moorjani et al. 2013 and HGDP)</b> | <b>GPS predicted Latitude</b> | <b>GPS predicted Longitude</b> |
|------------------|-------------------|--------------------------------------------------------------------------------------|-------------------------------|--------------------------------|
| HG04098          | ITU               | Velama_183_R2                                                                        | 15.9700604                    | 75.9687122                     |
| HG04118          | ITU               | Kurumba_45_R1                                                                        | 10.9207245                    | 76.5547851                     |
| HG04198          | ITU               | Hallaki_143_R2                                                                       | 14.3841648                    | 74.6857811                     |
| HG04200          | ITU               | BHIL_MP02                                                                            | 22.4041847                    | 72.9261745                     |
| HG04202          | ITU               | KALL_TN03                                                                            | 11.9546807                    | 77.9809486                     |
| HG04206          | ITU               | BHIL_MP02                                                                            | 22.4579641                    | 72.8849898                     |
| HG04209          | ITU               | Naidu_177_R2                                                                         | 13.8657011                    | 78.8314763                     |
| HG04211          | ITU               | KVGO_TN01                                                                            | 12.1460469                    | 76.8750666                     |
| HG04212          | ITU               | KVGO_TN02                                                                            | 11.5389759                    | 77.6408722                     |
| HG04214          | ITU               | BHIL_MP02                                                                            | 22.412742                     | 72.9161265                     |
| HG04216          | ITU               | BHIL_MP01                                                                            | 22.9478804                    | 73.3419329                     |
| HG04219          | ITU               | BHIL_MP01                                                                            | 22.9001561                    | 72.9618559                     |
| HG04222          | ITU               | KALL_TN01                                                                            | 12.6684184                    | 78.3146545                     |
| HG04225          | ITU               | KVGO_TN01                                                                            | 12.1564238                    | 77.0200739                     |
| HG04235          | ITU               | SHER_WB01                                                                            | 26.7714798                    | 87.6453194                     |
| HG04238          | ITU               | KURU_KE04                                                                            | 12.6158633                    | 75.8089467                     |
| HG04239          | ITU               | Naidu_176_R2                                                                         | 13.7041787                    | 78.8559799                     |
| HG03642          | STU               | Naidu_176_R2                                                                         | 13.4231714                    | 78.7050098                     |
| HG03643          | STU               | MAKV_TN05                                                                            | 9.01322514                    | 77.5492413                     |
| HG03644          | STU               | Velama_183_R2                                                                        | 15.7973152                    | 75.9261923                     |
| HG03645          | STU               | Satnami_208_R2                                                                       | 19.9635761                    | 85.0830464                     |
| HG03646          | STU               | Naidu_178_R2                                                                         | 13.9106142                    | 78.8057598                     |
| HG03672          | STU               | BHIL_MP05                                                                            | 22.5112173                    | 73.2539038                     |
| HG03673          | STU               | Kurumba_43_R1                                                                        | 10.9718967                    | 76.7876398                     |
| HG03679          | STU               | Kurumba_45_R1                                                                        | 11.3825538                    | 76.6403303                     |
| HG03680          | STU               | Naidu_177_R2                                                                         | 13.638009                     | 78.5702784                     |
| HG03681          | STU               | Naidu_177_R2                                                                         | 13.8599027                    | 78.6125067                     |
| HG03684          | STU               | MALA_AP3M                                                                            | 17.3277267                    | 77.7138845                     |
| HG03685          | STU               | Naidu_177_R2                                                                         | 14.1716191                    | 78.9498706                     |
| HG03686          | STU               | KALL_TN02                                                                            | 12.2082004                    | 78.2984622                     |
| HG03687          | STU               | Naidu_176_R2                                                                         | 13.6980298                    | 78.6895282                     |
| HG03689          | STU               | Lodi_204_R2                                                                          | 26.2294199                    | 83.1877656                     |
| HG03690          | STU               | JEWS_KE04                                                                            | 10.2437743                    | 77.1663529                     |
| HG03691          | STU               | KALL_TN04                                                                            | 11.5616463                    | 78.1562519                     |
| HG03692          | STU               | KALL_TN01                                                                            | 12.059581                     | 77.950103                      |
| HG03693          | STU               | KALL_TN04                                                                            | 11.696438                     | 78.0079083                     |
| HG03694          | STU               | JEWS_KE05                                                                            | 11.4773564                    | 75.8943725                     |
| HG03695          | STU               | KALL_TN04                                                                            | 11.5071567                    | 77.7204169                     |
| HG03696          | STU               | Kurumba_44_R1                                                                        | 11.3314859                    | 76.4772443                     |
| HG03697          | STU               | Naidu_178_R2                                                                         | 13.6974586                    | 78.6622417                     |
| HG03698          | STU               | Naidu_178_R2                                                                         | 13.9027166                    | 78.7248362                     |

| <b>Sample id</b> | <b>Population</b> | <b>Genetically closest reference individual (from Moorjani et al. 2013 and HGDP)</b> | <b>GPS predicted Latitude</b> | <b>GPS predicted Longitude</b> |
|------------------|-------------------|--------------------------------------------------------------------------------------|-------------------------------|--------------------------------|
| HG03711          | STU               | Kurumba_45_R1                                                                        | 11.3865372                    | 76.8002264                     |
| HG03733          | STU               | KALL_TN05                                                                            | 12.6083361                    | 78.0021898                     |
| HG03736          | STU               | Kurumba_43_R1                                                                        | 11.1807645                    | 76.7103483                     |
| HG03738          | STU               | KVGO_TN05                                                                            | 12.0960248                    | 77.6822164                     |
| HG03740          | STU               | KALL_TN04                                                                            | 11.3979939                    | 78.0905974                     |
| HG03741          | STU               | MAKV_TN04                                                                            | 8.65697019                    | 77.6619486                     |
| HG03743          | STU               | Mala_188_R2                                                                          | 16.517642                     | 78.1666232                     |
| HG03744          | STU               | Kurumba_45_R1                                                                        | 11.3232695                    | 76.9445942                     |
| HG03745          | STU               | Naidu_177_R2                                                                         | 13.6996308                    | 78.6644524                     |
| HG03746          | STU               | HGDP00070Balochi                                                                     | 29.8200944                    | 67.7640309                     |
| HG03750          | STU               | JEWS_KE04                                                                            | 9.52470453                    | 77.0263613                     |
| HG03752          | STU               | BHIL_MP05                                                                            | 22.1372316                    | 73.1524392                     |
| HG03753          | STU               | KURU_KE02                                                                            | 12.2124034                    | 75.8635538                     |
| HG03754          | STU               | JEWS_KE04                                                                            | 10.0101284                    | 76.3190642                     |
| HG03755          | STU               | Naidu_177_R2                                                                         | 13.6707953                    | 78.6228419                     |
| HG03756          | STU               | KVGO_TN01                                                                            | 11.6543549                    | 77.1089564                     |
| HG03757          | STU               | Bhil_100_R2                                                                          | 22.3726251                    | 73.0033938                     |
| HG03760          | STU               | KALL_TN04                                                                            | 11.1684799                    | 77.8628966                     |
| HG03836          | STU               | JEWS_KE04                                                                            | 10.9083595                    | 76.6294737                     |
| HG03837          | STU               | BHIL_MP05                                                                            | 22.2398486                    | 73.0323736                     |
| HG03838          | STU               | KALL_TN04                                                                            | 11.8538412                    | 78.1177141                     |
| HG03844          | STU               | MAKV_TN05                                                                            | 9.09972917                    | 77.8053058                     |
| HG03846          | STU               | KALL_TN04                                                                            | 12.1291367                    | 78.1170854                     |
| HG03848          | STU               | Naidu_177_R2                                                                         | 13.7837977                    | 78.737894                      |
| HG03849          | STU               | Naidu_176_R2                                                                         | 13.5733994                    | 78.7971203                     |
| HG03850          | STU               | Kurumba_45_R1                                                                        | 10.8542756                    | 76.9908734                     |
| HG03851          | STU               | Naidu_178_R2                                                                         | 13.5352212                    | 78.4464119                     |
| HG03854          | STU               | Kurumba_45_R1                                                                        | 11.2487212                    | 76.3221997                     |
| HG03856          | STU               | MALA_AP2M                                                                            | 16.2959007                    | 78.3131055                     |
| HG03857          | STU               | KALL_TN03                                                                            | 12.3505483                    | 77.873927                      |
| HG03858          | STU               | KALL_TN05                                                                            | 12.7371238                    | 78.0008865                     |
| HG03884          | STU               | MAKV_TN05                                                                            | 9.05900064                    | 77.6393096                     |
| HG03885          | STU               | Naidu_176_R2                                                                         | 13.4282707                    | 78.7716306                     |
| HG03886          | STU               | JEWS_KE04                                                                            | 10.0310748                    | 76.3114596                     |
| HG03887          | STU               | Naidu_178_R2                                                                         | 13.5896211                    | 78.6752934                     |
| HG03888          | STU               | JAIN_GU02                                                                            | 22.3700446                    | 72.4993828                     |
| HG03890          | STU               | Naidu_178_R2                                                                         | 13.65719                      | 78.3294557                     |
| HG03894          | STU               | KALL_TN01                                                                            | 12.2662258                    | 78.0113769                     |
| HG03895          | STU               | KALL_TN03                                                                            | 12.6806063                    | 77.7689108                     |
| HG03896          | STU               | KALL_TN04                                                                            | 11.6257935                    | 78.4839192                     |
| HG03897          | STU               | Naidu_178_R2                                                                         | 13.6524143                    | 78.546304                      |

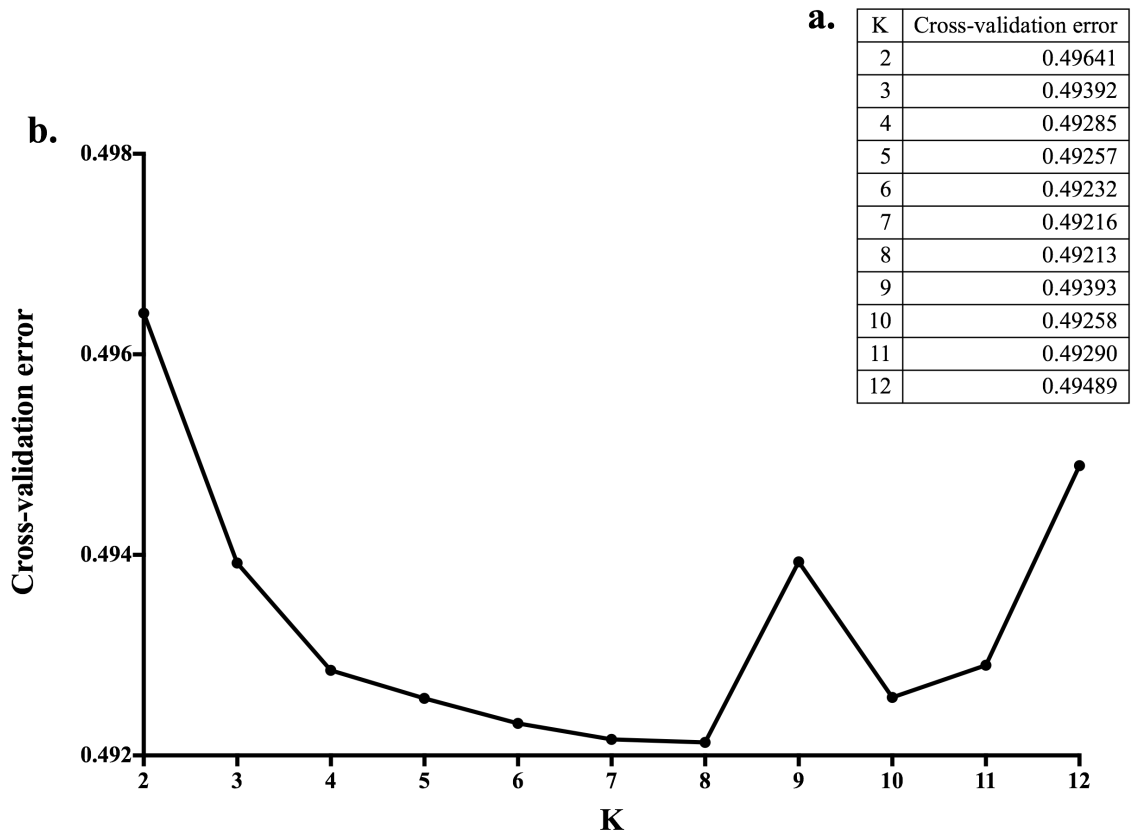
| <b>Sample id</b> | <b>Population</b> | <b>Genetically closest reference individual (from Moorjani et al. 2013 and HGBP)</b> | <b>GPS predicted Latitude</b> | <b>GPS predicted Longitude</b> |
|------------------|-------------------|--------------------------------------------------------------------------------------|-------------------------------|--------------------------------|
| HG03898          | STU               | MAKV_TN04                                                                            | 8.72381111                    | 77.6605709                     |
| HG03899          | STU               | KALL_TN01                                                                            | 12.4328881                    | 77.678726                      |
| HG03900          | STU               | KVGO_TN01                                                                            | 11.414127                     | 76.9755357                     |
| HG03943          | STU               | MAKV_TN04                                                                            | 8.99994395                    | 77.6639215                     |
| HG03944          | STU               | JEWS_KE04                                                                            | 10.5966844                    | 76.5719695                     |
| HG03945          | STU               | Naidu_178_R2                                                                         | 14.0153865                    | 78.209754                      |
| HG03947          | STU               | KALL_TN04                                                                            | 12.4921734                    | 77.9391041                     |
| HG03949          | STU               | JEWS_KE04                                                                            | 10.670298                     | 76.8563686                     |
| HG03950          | STU               | KURU_KE02                                                                            | 12.1362276                    | 75.8266463                     |
| HG03951          | STU               | Naidu_178_R2                                                                         | 13.8160694                    | 78.4597227                     |
| HG03953          | STU               | BHIL_MP01                                                                            | 22.5385468                    | 72.9357648                     |
| HG03955          | STU               | KURU_KE04                                                                            | 12.3829171                    | 75.7630653                     |
| HG03985          | STU               | Vysya_152_R2                                                                         | 15.2290447                    | 77.3952979                     |
| HG03986          | STU               | Naidu_178_R2                                                                         | 13.8724802                    | 78.6134638                     |
| HG03989          | STU               | JEWS_KE04                                                                            | 10.2188285                    | 76.4623882                     |
| HG03990          | STU               | KURU_KE01                                                                            | 11.8930501                    | 76.2142806                     |
| HG03991          | STU               | KURU_KE04                                                                            | 12.7837482                    | 75.9398548                     |
| HG03995          | STU               | Naidu_176_R2                                                                         | 13.2997788                    | 78.7733165                     |
| HG03998          | STU               | JEWS_KE04                                                                            | 10.7005074                    | 76.7580479                     |
| HG03999          | STU               | Naidu_177_R2                                                                         | 13.902528                     | 78.1968488                     |
| HG04003          | STU               | JEWS_KE05                                                                            | 9.9834873                     | 76.2790008                     |
| HG04006          | STU               | KALL_TN05                                                                            | 12.7288019                    | 78.0555651                     |
| HG04029          | STU               | Kurumba_43_R1                                                                        | 11.1770612                    | 76.9650264                     |
| HG04033          | STU               | KALL_TN01                                                                            | 13.1354561                    | 78.5411011                     |
| HG04035          | STU               | Naidu_177_R2                                                                         | 13.7981389                    | 78.3647864                     |
| HG04038          | STU               | KURU_KE04                                                                            | 12.0622779                    | 76.0184156                     |
| HG04039          | STU               | JEWS_KE04                                                                            | 9.9054158                     | 77.2140926                     |
| HG04042          | STU               | Naidu_178_R2                                                                         | 13.6551728                    | 78.7793134                     |
| HG04047          | STU               | KALL_TN04                                                                            | 10.5573251                    | 78.271766                      |
| HG04075          | STU               | Naidu_177_R2                                                                         | 13.9330166                    | 78.8449232                     |
| HG04099          | STU               | Lodi_204_R2                                                                          | 25.7847125                    | 83.0571263                     |
| HG04100          | STU               | KALL_TN01                                                                            | 12.7584965                    | 78.0898962                     |
| HG04106          | STU               | KVGO_TN03                                                                            | 11.6237536                    | 77.6352617                     |
| HG04107          | STU               | KVGO_TN01                                                                            | 11.3959476                    | 77.3496787                     |
| HG04210          | STU               | Naidu_176_R2                                                                         | 13.4911488                    | 78.682816                      |
| HG04227          | STU               | Satnam_209_R2                                                                        | 20.2062987                    | 85.1413998                     |
| HG04229          | STU               | VEDD_SL03                                                                            | 9.1915712                     | 79.7433654                     |
| HG03006          | BEB               | Lodi_205_R2                                                                          | 25.7384422                    | 82.7032561                     |
| HG03007          | BEB               | GOND_CA01                                                                            | 21.230088                     | 80.3398859                     |
| HG03009          | BEB               | Tharu_109_R2                                                                         | 27.5118308                    | 79.332012                      |
| HG03012          | BEB               | Tharu_107_R1                                                                         | 27.2570122                    | 79.7982918                     |

| <b>Sample id</b> | <b>Population</b> | <b>Genetically closest reference individual (from Moorjani et al. 2013 and HGDP)</b> | <b>GPS predicted Latitude</b> | <b>GPS predicted Longitude</b> |
|------------------|-------------------|--------------------------------------------------------------------------------------|-------------------------------|--------------------------------|
| HG03585          | BEB               | Tharu_109_R2                                                                         | 27.0940395                    | 78.8636764                     |
| HG03589          | BEB               | Lodi_205_R2                                                                          | 26.2043588                    | 81.6301165                     |
| HG03593          | BEB               | GOND_CA01                                                                            | 22.6791002                    | 80.0050069                     |
| HG03594          | BEB               | Tharu_109_R2                                                                         | 27.250966                     | 79.2678729                     |
| HG03595          | BEB               | Tharu_109_R2                                                                         | 27.0533045                    | 79.5835647                     |
| HG03598          | BEB               | Tharu_109_R2                                                                         | 26.7599824                    | 79.0660591                     |
| HG03600          | BEB               | Lodi_204_R2                                                                          | 24.9315303                    | 82.6572768                     |
| HG03603          | BEB               | Lodi_205_R2                                                                          | 24.7938212                    | 82.738914                      |
| HG03604          | BEB               | Lodi_205_R2                                                                          | 25.0670925                    | 82.2934659                     |
| HG03607          | BEB               | Lodi_205_R2                                                                          | 26.4930087                    | 81.4211966                     |
| HG03611          | BEB               | Tharu_109_R2                                                                         | 27.4011971                    | 78.9350495                     |
| HG03615          | BEB               | Tharu_109_R2                                                                         | 26.9026817                    | 79.2484372                     |
| HG03616          | BEB               | Tharu_109_R2                                                                         | 27.0259801                    | 79.3353876                     |
| HG03793          | BEB               | Tharu_105_R1                                                                         | 28.1667745                    | 79.9110272                     |
| HG03796          | BEB               | Tharu_109_R2                                                                         | 25.8673905                    | 79.772009                      |
| HG03800          | BEB               | Satnami_210_R2                                                                       | 19.92761                      | 83.7226493                     |
| HG03802          | BEB               | Tharu_109_R2                                                                         | 27.6842947                    | 79.4809729                     |
| HG03803          | BEB               | Tharu_107_R1                                                                         | 27.1131711                    | 80.0651194                     |
| HG03805          | BEB               | Tharu_109_R2                                                                         | 27.6975926                    | 79.244073                      |
| HG03808          | BEB               | Tharu_109_R2                                                                         | 27.4217755                    | 79.3601219                     |
| HG03809          | BEB               | Tharu_109_R2                                                                         | 27.4942342                    | 78.9450774                     |
| HG03812          | BEB               | Tharu_109_R2                                                                         | 26.7605519                    | 78.9052509                     |
| HG03814          | BEB               | Tharu_109_R2                                                                         | 26.8708024                    | 79.3420445                     |
| HG03815          | BEB               | Tharu_109_R2                                                                         | 27.2992306                    | 79.0537802                     |
| HG03817          | BEB               | Lodi_205_R2                                                                          | 25.5844556                    | 81.6805365                     |
| HG03821          | BEB               | Tharu_108_R1                                                                         | 26.8609154                    | 79.6904453                     |
| HG03823          | BEB               | Lodi_205_R2                                                                          | 26.7746479                    | 81.1109709                     |
| HG03824          | BEB               | Tharu_109_R2                                                                         | 26.9622225                    | 79.623225                      |
| HG03826          | BEB               | GOND_CA01                                                                            | 22.960198                     | 80.7931743                     |
| HG03829          | BEB               | Tharu_109_R2                                                                         | 26.6474689                    | 79.0735037                     |
| HG03830          | BEB               | Tharu_109_R2                                                                         | 26.520206                     | 79.6661425                     |
| HG03832          | BEB               | Lodi_205_R2                                                                          | 24.2602409                    | 82.0270781                     |
| HG03833          | BEB               | Tharu_110_R2                                                                         | 26.845359                     | 79.8704346                     |
| HG03902          | BEB               | Tharu_108_R1                                                                         | 27.2758414                    | 79.0549277                     |
| HG03905          | BEB               | GOND_CA01                                                                            | 22.8246238                    | 79.7220754                     |
| HG03907          | BEB               | Lodi_205_R2                                                                          | 26.1841579                    | 81.2862491                     |
| HG03908          | BEB               | Lodi_205_R2                                                                          | 26.1352365                    | 81.3309907                     |
| HG03910          | BEB               | Tharu_109_R2                                                                         | 27.3104671                    | 79.2103449                     |
| HG03911          | BEB               | Tharu_107_R1                                                                         | 27.7773633                    | 79.919962                      |
| HG03913          | BEB               | Tharu_105_R1                                                                         | 27.490111                     | 79.4263388                     |
| HG03914          | BEB               | Tharu_109_R2                                                                         | 27.4415383                    | 79.0179286                     |

| <b>Sample id</b> | <b>Population</b> | <b>Genetically closest reference individual (from Moorjani et al. 2013 and HGDP)</b> | <b>GPS predicted Latitude</b> | <b>GPS predicted Longitude</b> |
|------------------|-------------------|--------------------------------------------------------------------------------------|-------------------------------|--------------------------------|
| HG03916          | BEB               | Tharu_109_R2                                                                         | 26.5984952                    | 79.426436                      |
| HG03917          | BEB               | Lodi_205_R2                                                                          | 26.2663931                    | 80.8238487                     |
| HG03919          | BEB               | Tharu_108_R1                                                                         | 28.182566                     | 79.1561579                     |
| HG03920          | BEB               | Tharu_109_R2                                                                         | 27.4484736                    | 79.3880737                     |
| HG03922          | BEB               | Tharu_109_R2                                                                         | 27.4895114                    | 79.2505661                     |
| HG03925          | BEB               | Lodi_205_R2                                                                          | 25.5718144                    | 80.8954829                     |
| HG03926          | BEB               | Tharu_109_R2                                                                         | 26.2203623                    | 79.4989209                     |
| HG03928          | BEB               | Tharu_109_R2                                                                         | 26.9033401                    | 79.1429779                     |
| HG03931          | BEB               | Tharu_109_R2                                                                         | 26.5217455                    | 80.2617022                     |
| HG03934          | BEB               | Tharu_109_R2                                                                         | 27.4896348                    | 79.0881171                     |
| HG03937          | BEB               | Lodi_205_R2                                                                          | 25.8719219                    | 81.7060854                     |
| HG03940          | BEB               | Lodi_204_R2                                                                          | 25.4236066                    | 82.8411716                     |
| HG03941          | BEB               | Lodi_204_R2                                                                          | 25.1371612                    | 82.8366486                     |
| HG04131          | BEB               | Tharu_109_R2                                                                         | 26.6722317                    | 79.0116933                     |
| HG04134          | BEB               | Tharu_109_R2                                                                         | 26.4026067                    | 78.9100398                     |
| HG04140          | BEB               | Tharu_109_R2                                                                         | 26.5298457                    | 79.7727039                     |
| HG04141          | BEB               | Tharu_109_R2                                                                         | 26.9789162                    | 79.5156566                     |
| HG04144          | BEB               | Hallaki_139_R2                                                                       | 15.5558732                    | 74.8840735                     |
| HG04146          | BEB               | Lodi_205_R2                                                                          | 25.043504                     | 81.0597972                     |
| HG04152          | BEB               | Tharu_107_R1                                                                         | 26.5505803                    | 80.1775204                     |
| HG04153          | BEB               | Tharu_109_R2                                                                         | 27.2408058                    | 79.4822462                     |
| HG04155          | BEB               | Lodi_205_R2                                                                          | 25.1131233                    | 81.9092747                     |
| HG04156          | BEB               | Tharu_107_R1                                                                         | 26.6904008                    | 79.7302332                     |
| HG04158          | BEB               | Tharu_109_R2                                                                         | 26.8220332                    | 79.6271091                     |
| HG04159          | BEB               | Tharu_105_R1                                                                         | 27.1515498                    | 79.3877011                     |
| HG04161          | BEB               | Tharu_105_R1                                                                         | 26.5566086                    | 80.1539344                     |
| HG04162          | BEB               | Chenchu_31_R1                                                                        | 20.3893673                    | 80.300346                      |
| HG04164          | BEB               | Tharu_109_R2                                                                         | 27.0597023                    | 79.3022953                     |
| HG04171          | BEB               | Tharu_109_R2                                                                         | 26.856377                     | 79.7163599                     |
| HG04173          | BEB               | Tharu_109_R2                                                                         | 27.5275514                    | 79.498122                      |
| HG04176          | BEB               | Lodi_205_R2                                                                          | 25.3326977                    | 81.2146181                     |
| HG04177          | BEB               | Lodi_205_R2                                                                          | 25.3017179                    | 81.4832941                     |
| HG04180          | BEB               | Tharu_105_R1                                                                         | 27.5119127                    | 80.0090685                     |
| HG04182          | BEB               | Lodi_205_R2                                                                          | 25.2338072                    | 81.3243004                     |
| HG04183          | BEB               | Tharu_107_R1                                                                         | 26.6512572                    | 79.8962828                     |
| HG04185          | BEB               | Satnami_208_R2                                                                       | 20.4464275                    | 84.6539921                     |
| HG04186          | BEB               | Chenchu_32_R1                                                                        | 19.3999443                    | 79.3984575                     |
| HG04188          | BEB               | Lodi_205_R2                                                                          | 25.6376835                    | 81.819953                      |
| HG04189          | BEB               | Lodi_205_R2                                                                          | 24.999572                     | 82.2297971                     |
| HG04194          | BEB               | SHER_WB01                                                                            | 26.4507785                    | 86.3296279                     |
| HG04195          | BEB               | Tharu_107_R1                                                                         | 26.6707495                    | 79.7367783                     |



**Figure S1. (a)** Table showing proportion of Cross-Validation error (CVE) in ADMIXTURE carried out for the global dataset with different values of ancestral components ( $K$ ) employed in the admixture analysis. The CVE was used to determine the optimum number of ancestral components ( $K$ ) supported by the data. At  $K=13$  the CVE was minimized. **(b)** Plot depicting the change of CVE with increasing number of ancestral components ( $K$ ). The optimum number of ancestral components with lowest CVE was thirteen ( $K=13$ ).



**Figure S2. (a)** Table showing proportion of Cross-Validation error (CVE) in ADMIXTURE carried out for the South Asian only dataset with different values of ancestral components ( $K$ ) employed in the admixture analysis. The CVE was used to determine the optimum number of ancestral components ( $K$ ) supported by the data. At  $K=8$  the CVE was minimized. **(b)** Plot depicting the change of CVE with increasing number of ancestral components ( $K$ ). The optimum number of ancestral components with lowest CVE was 8 ( $K=8$ ).