Supplementary Figures

The genetic history of the Indian Cochin Jews

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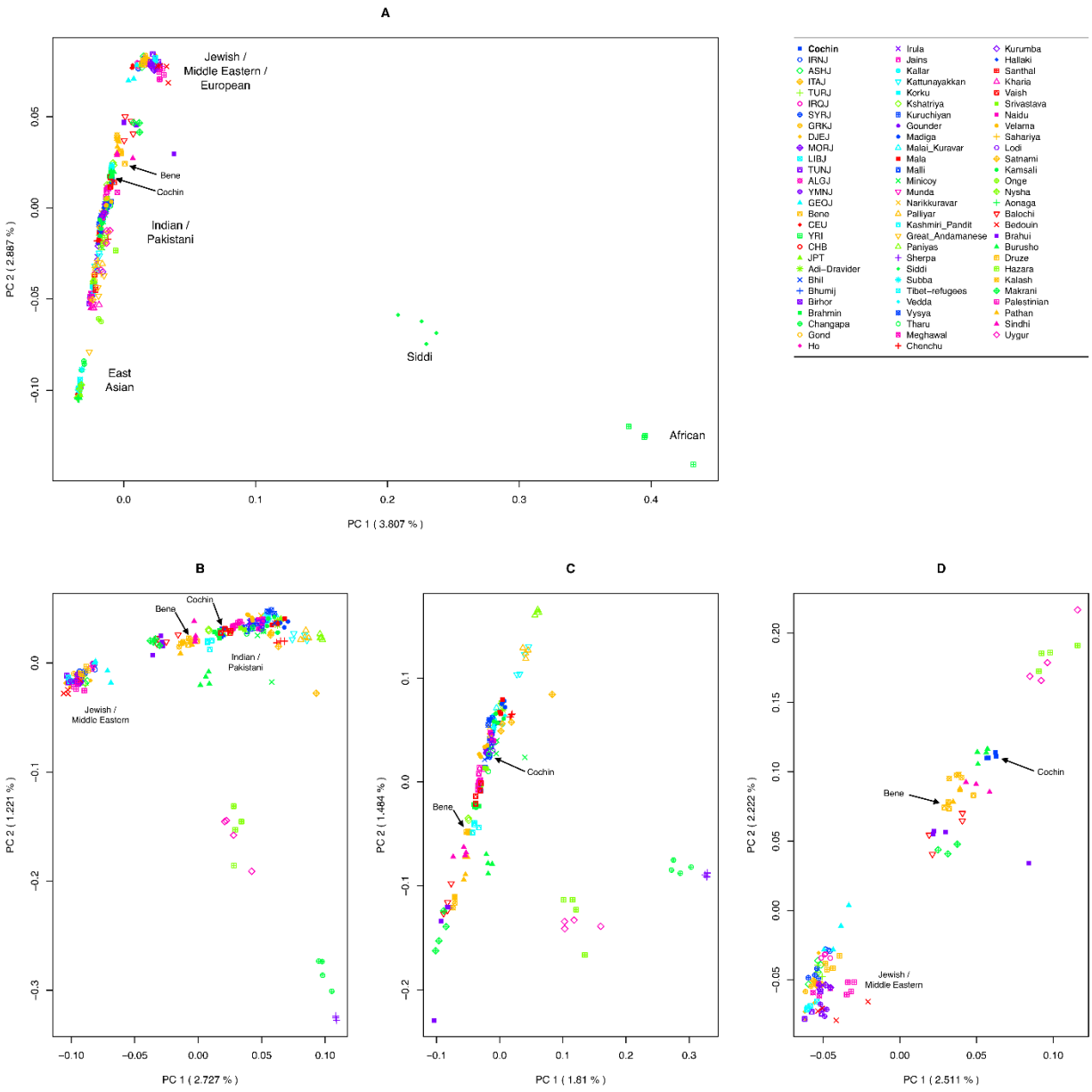


Figure S1. Principal Component Analysis of Jewish, Indian and worldwide populations. Each panel presents the top two principal components for a set of populations that include Cochin Jews and Bene Israel together with: (A) Jewish, Indian, Pakistani, Middle Eastern and four worldwide HapMap populations (CEU, CHB, JPT and YRI; 1090 individuals from 80 populations); (B) Jewish, Middle-Eastern, Pakistani and Indian populations along the Indian cline; (C) Indian (along the Indian cline) and Pakistani populations; (D) Jewish, Middle-Eastern and Pakistani populations. Abbreviations of Jewish populations: Cochin Jews (Cochin), Bene Israel (Bene), Algerian Jews (ALGJ), Ashkenazi Jews (ASHJ), Djerban Jews (DJEJ), Georgian

Jews (GEOJ), Greek Jews (GRKJ), Iranian Jews (IRNJ), Iraqi Jews (IRQJ), Italian Jews (ITAJ), Libyan Jews (LIBJ), Moroccan Jews (MORJ), Syrian Jews (SYRJ), Tunisian Jews (TUNJ), Turkish Jews (TURJ) and Yemenite Jews (YMNJ). In this analysis, in order to correct for possible bias due to sample size, we used not more than four samples from each population.

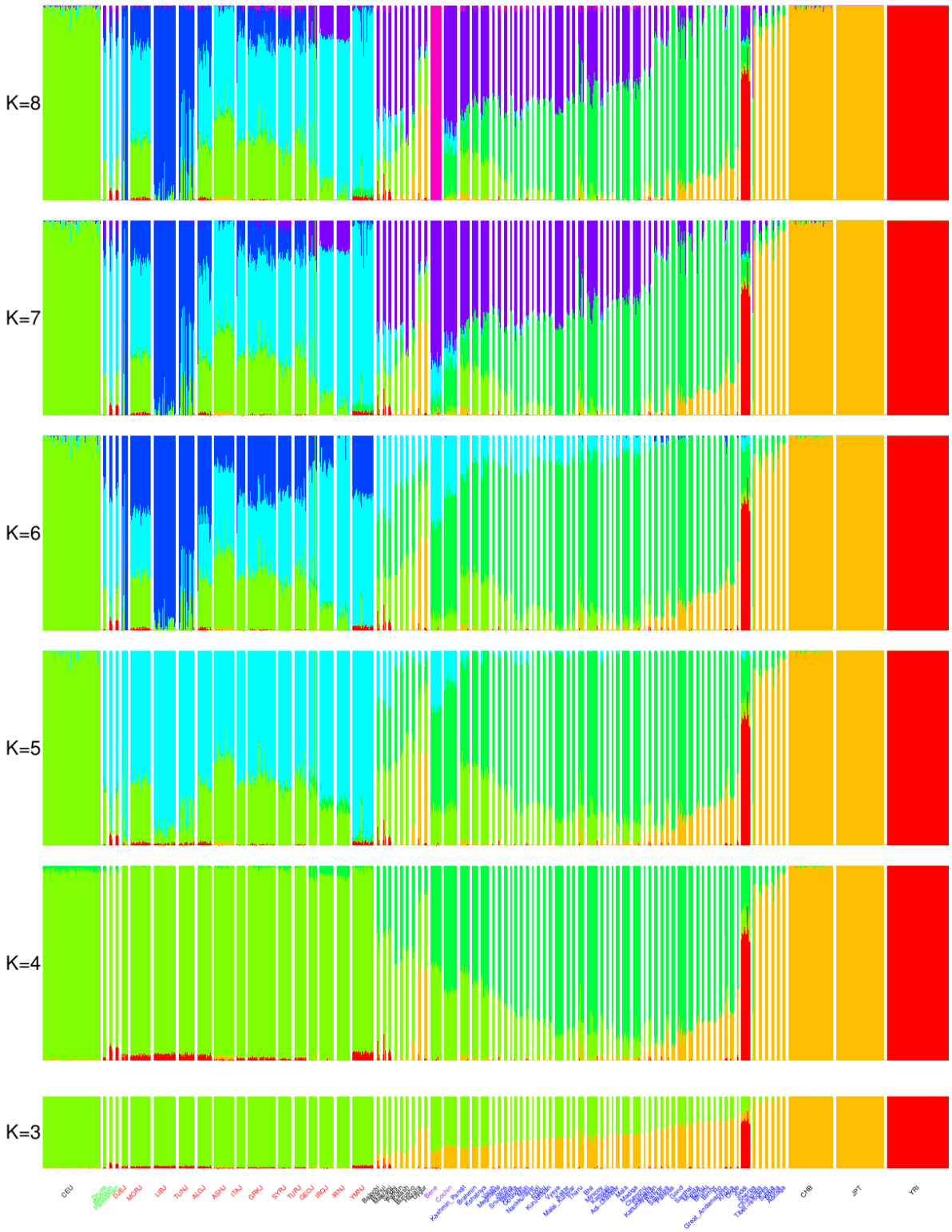

K=8
K=7
K=6
K=5
K=4
K=3
CEU
MORJ
LIBJ
TUNJ
ALGJ
ASHJ
ITAJ
GRKJ
SYRJ
TURJ
GEOJ
IRQJ
IRNJ
YMNJ
Cochin
CHB
JPT
YRI

Figure S2. ADMIXTURE analysis for Jewish, Indian, Pakistani, Middle Eastern (Druze, Bedouin and Palestinians) and representative HapMap (CEU, YRI, JPT and CHB) populations. K, the number of clusters, varies from K=3 to K=8. We colored the names of some of the populations based on the following groups: Indian Jews (purple), Jews (red), Indian (blue) and Middle-Eastern (green) populations.

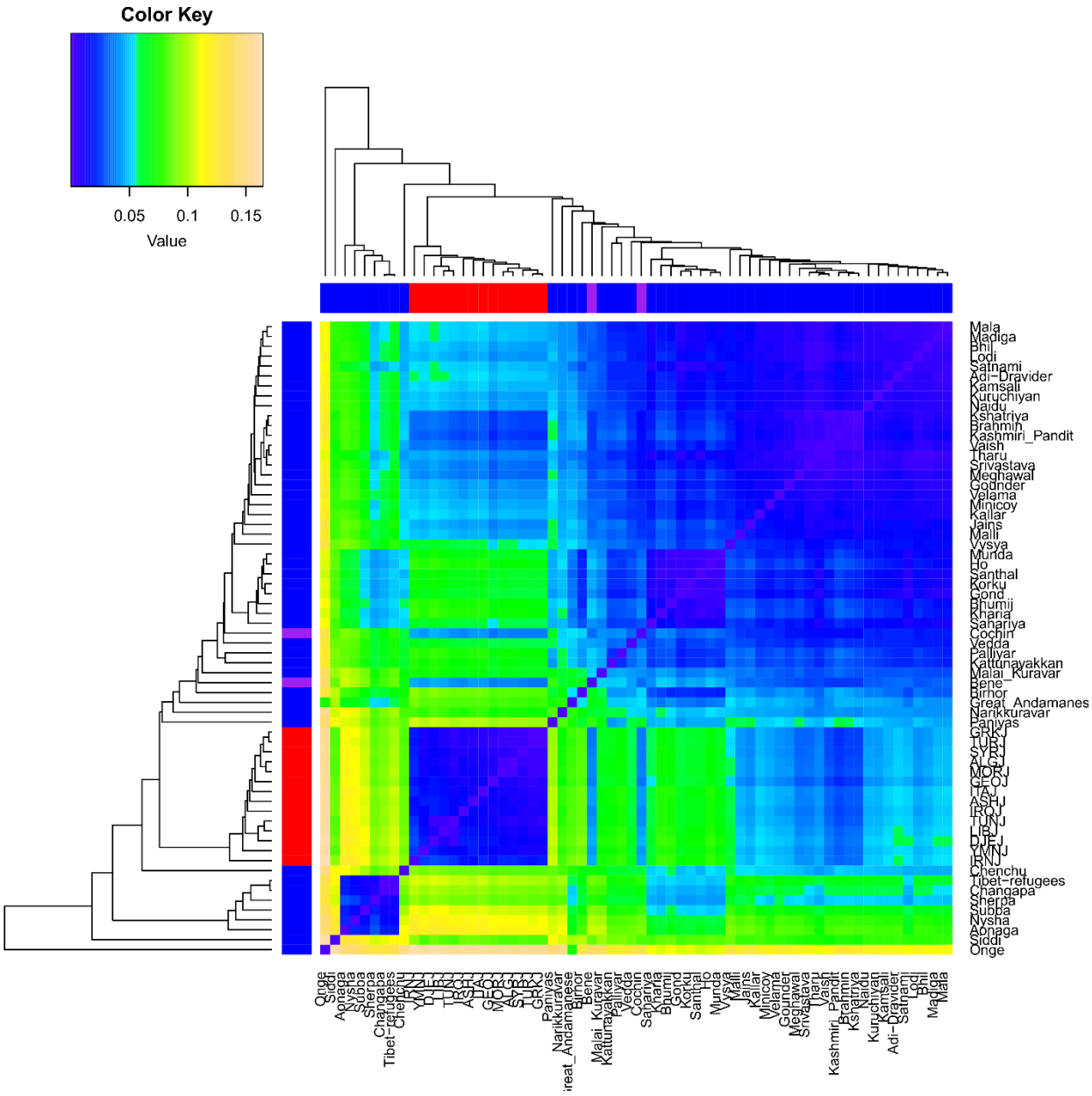
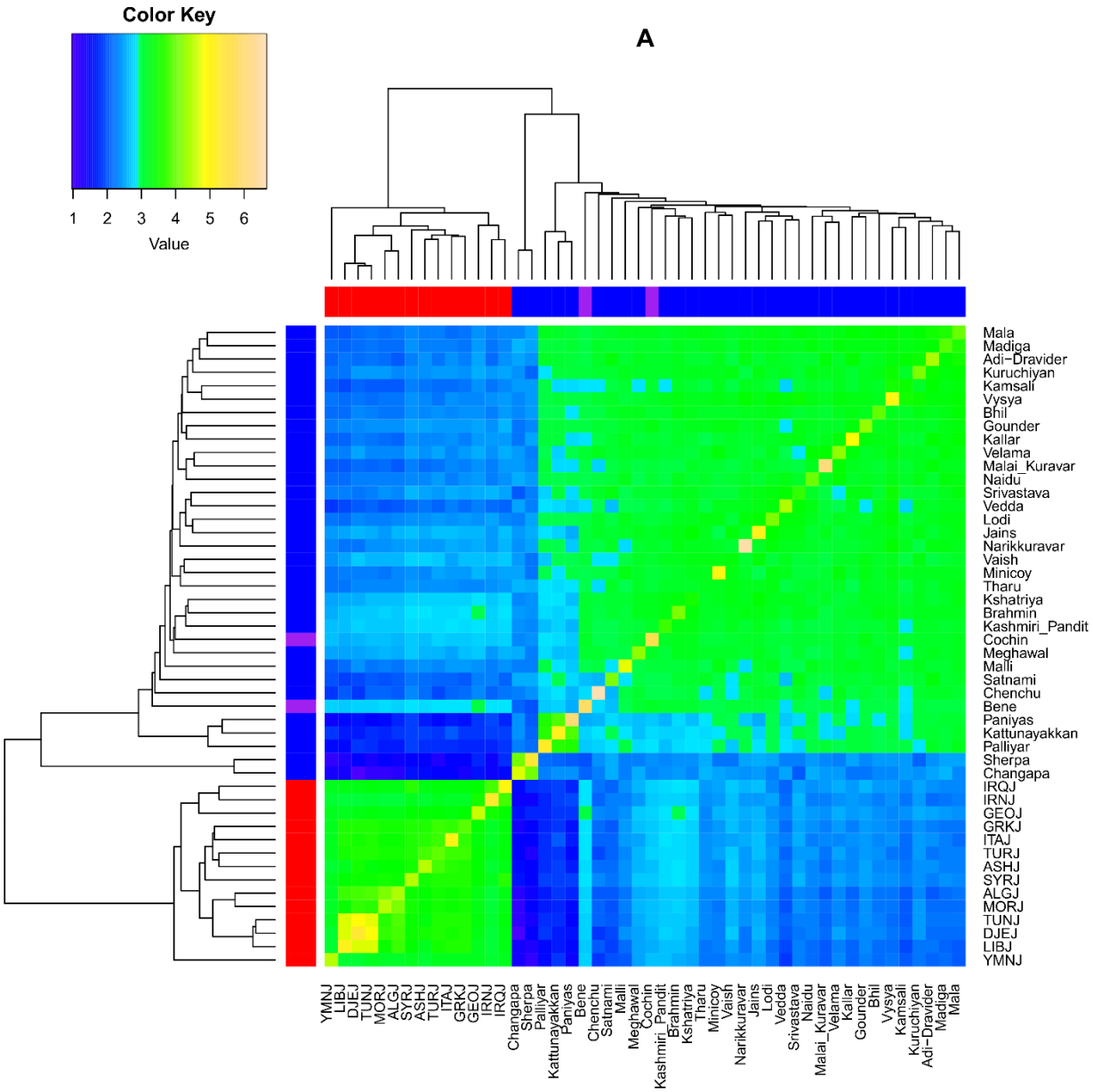


Figure S3. Heat map of autosomal F_{ST} values between Jewish and Indian populations. Populations are colored based on their grouping: Indian (blue), Jews (red) and Indian Jews (Cochin Jews and Bene Israel; purple).


Color Key
1 2 3 4 5 6
Value
A
Mala
Madiga
Adi−Dravider
Kuruchiyan
Kamsali
Vysya
Bhil
Gounder
Kallar
Velama
Malai_Kuravar
Naidu
Srivastava
Vedda
Lodi
Jains
Narikkuravar
Vaish
Minicoy
Tharu
Kshatriya
Brahmin
Kashmiri_Pandit
Cochin
Meghawal
Malli
Satnami
Chenchu
Bene
Paniyas
Kattunayakkan
Palliyar
Sherpa
Changapa
IRQJ
IRNJ
GEOJ
GRKJ
ITAJ
TURJ
ASHJ
SYRJ
ALGJ
MORJ
TUNJ
DJEJ
LIBJ
YMNJ
YMNJ LIBJ DJEJ TUNJ MORJ ALGJ SYRJ ASHJ TURJ ITAJ GRKJ GEOJ IRNJ IRQJ Changapa Sherpa Palliyar Kattunayakkan Paniyas Bene Chenchu Satnami Malli Meghawal Cochin Kashmiri_Pandit Brahmin Kshatriya Tharu Minicoy Vaish Narikkuravar Jains Lodi Vedda Srivastava Naidu Malai_Kuravar Velama Kallar Gounder Bhil Vysya Kamsali Kuruchiyan Adi−Dravider Madiga Mala

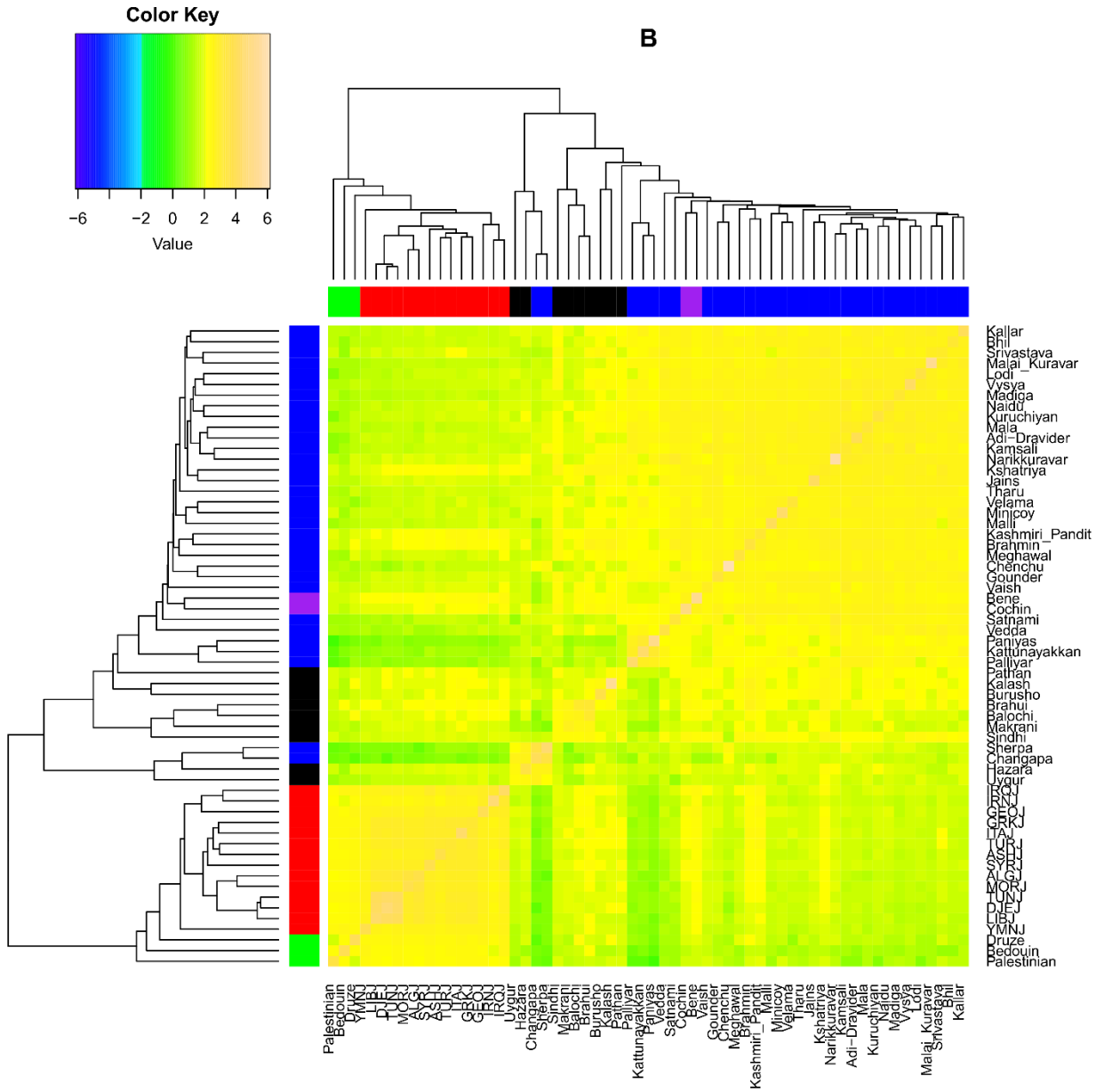


Figure S4. Heat map of IBD sharing between Indian and Jewish populations for (A) Jewish and Indians populations and (B) for Jewish, Indian, Pakistani and Middle-Eastern populations. Entry (i,j) in the heat map presents the mean IBD sharing between individuals from populations i and j. Values on the diagonal represent IBD within populations. Populations are colored based on their grouping: Indian (blue), Jews (red), Indian Jews (Cochin Jews and Bene Israel; purple), Middle-Eastern (green) and Pakistani populations (black).

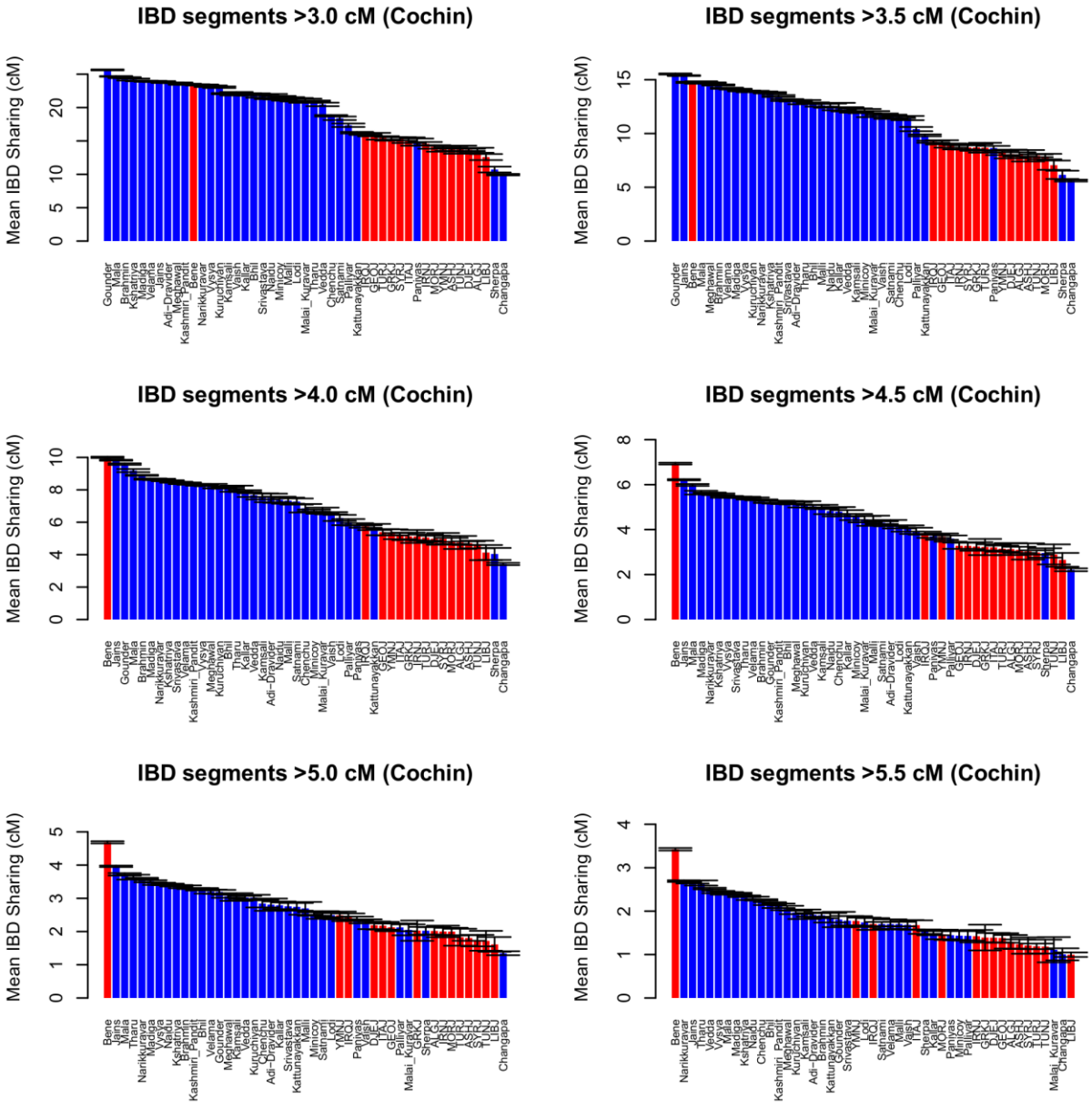


Figure S5. Average IBD sharing between Cochin Jews and other Jewish and Indian populations, for various minimal lengths of IBD segments.