**S4 Table: Variations of HWE values according to loci and ethno-linguistic groups and subgroups**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Ethno | Eth. Pools | Eth. Grp | Gene | rsid | Case  | Control | HWE |
| Bantu | Bantu | *IL1A* | rs1800794 | 61 | 150 | 0.8951 |
| *IL1RN* | rs2234663 | 1 |
| *IL4RN* | rs79071878 | 1 |
| *HLA-G* | rs371194629 | 1 |
| *IL6* | rs1554606 | 0.9944 |
| *HPR* | rs1697370 | 0.2023 |
| *HP* | - | 0.0623 |
| Semi-Bantu | Semi-Bantu | *IL1A* | rs1800794 | 07 | 78 | 0.7823 |
| *IL1RN* | rs2234663 | 1 |
| *IL4RN* | rs79071878 | 0.9117 |
| *HLA-G* | rs371194629 | 0.8128 |
| *IL6* | rs1554606 | 1 |
| *HPR* | rs1697370 | 0.4162 |
| *HP* | - | 0.4771 |
| Baka  | **Baka** | *IL1A* | rs1800794 | 05 | 16 | 1 |
| *IL1RN* | rs2234663 | 1 |
| *IL4RN* | rs79071878 | 0.911 |
| *HLA-G* | rs371194629 | 1 |
| *IL6* | rs1554606 | 1 |
| *HPR* | rs1697370 | 1 |
| *HP* | - | 1 |
| Sudano-Sao  | **Sudano-Sao**  | *IL1A* | rs1800794 | 00 | 07 | 1 |
| *IL1RN* | rs2234663 | 1 |
| *IL4RN* | rs79071878 | 1 |
| *HLA-G* | rs371194629 | 1 |
| *IL6* | rs1554606 | 1 |
| *HPR* | rs1697370 | 1 |
| *HP* | - | 1 |
| Bantu | **Wovea** | **Douala** | *IL1A* | rs1800794 |  01 | 10 | 1 |
| *IL1RN* | rs2234663 | 1 |
| *IL4RN* | rs79071878 | 1 |
| *HLA-G* | rs371194629 | 0.1998 |
| *IL6* | rs1554606 | 0.4798 |
| *HPR* | rs1697370 | 1 |
| *HP* | - | 1 |
| **Bassa** | *IL1A* | rs1800794 |  12 | 28 | 1 |
| *IL1RN* | rs2234663 | 1 |
| *IL4RN* | rs79071878 | 0.7167 |
| *HLA-G* | rs371194629 | 1 |
| *IL6* | rs1554606 | 0.4655 |
| *HPR* | rs1697370 | 0.2698 |
| *HP* | - | 0.4097 |
| Bantu | **Beti-Fang** | **Bulu** | *IL1A* | rs1800794 | 00 | 06 | 1 |
| *IL1RN* | rs2234663 | 1 |
| *IL4RN* | rs79071878 | 1 |
| *HLA-G* | rs371194629 | 1 |
| *IL6* | rs1554606 | 1 |
| *HPR* | rs1697370 | 1 |
| *HP* | - | 1 |
| **Eton**  | *IL1A* | rs1800794 | 09 | 13 | 0.0899 |
| *IL1RN* | rs2234663 | 1 |
| *IL4RN* | rs79071878 | 0.9539 |
| *HLA-G* | rs371194629 | 1 |
| *IL6* | rs1554606 | 1 |
| *HPR* | rs1697370 | 1 |
| *HP* | - | 1 |
| **Fan** | *IL1A* | rs1800794 | 01 | 12 | 1 |
| *IL1RN* | rs2234663 | 1 |
| *IL4RN* | rs79071878 | 0.5929 |
| *HLA-G* | rs371194629 | 1 |
| *IL6* | rs1554606 | 0.5293 |
| *HPR* | rs1697370 | 1 |
| *HP* | - | 1 |
| **Iyassa**  | *IL1A* | rs1800794 | 08 | 23 | 0.6527 |
| *IL1RN* | rs2234663 | 1 |
| *IL4RN* | rs79071878 | 1 |
| *HLA-G* | rs371194629 | 0.8616 |
| *IL6* | rs1554606 | 0.6232 |
| *HPR* | rs1697370 | 0.2712 |
| *HP* | - | 0.2961 |
| **Kwasse** | *IL1A* | rs1800794 | 06 | 08 | 1 |
| *IL1RN* | rs2234663 | 1 |
| *IL4RN* | rs79071878 | 0.5939 |
| *HLA-G* | rs371194629 | 0.4406 |
| *IL6* | rs1554606 | 1 |
| *HPR* | rs1697370 | 1 |
| *HP* | rs10492814 | 0.4406 |
| **Maabi** | *IL1A* | rs1800794 | 04 | 09 | 0.4932 |
| *IL1RN* | rs2234663 | 1 |
| *IL4RN* | rs79071878 | 0.4932 |
| *HLA-G* | rs371194629 | 0.5393 |
| *IL6* | rs1554606 | 1 |
| *HPR* | rs1697370 | 1 |
| *HP* | - | 1 |
| **Mvae** | *IL1A* | rs1800794 | 06 | 09 | 0.1674 |
| *IL1RN* | rs2234663 | 1 |
| *IL4RN* | rs79071878 | 1 |
| *HLA-G* | rs371194629 | 1 |
| *IL6* | rs1554606 | 1 |
| *HPR* | rs1697370 | 1 |
| *HP* | - | 1 |
| **Ngoumba** | *IL1A* | rs1800794 | 14 | 32 | 0.00004 |
| *IL1RN* | rs2234663 | 0.0001 |
| *IL4RN* | rs79071878 | 0.0064 |
| *HLA-G* | rs371194629 | 0.0025 |
| *IL6* | rs1554606 | 1 |
| *HPR* | rs1697370 | 0.0646 |
| *HP* | - | 0.0725 |
| Semi Bantu | Semi Bantu | **Mundani** | *IL1A* | rs1800794 | 03 | 50 | 1 |
| *IL1RN* | rs2234663 | 0.5784 |
| *IL4RN* | rs79071878 | 0.1433 |
| *HLA-G* | rs371194629 | 1 |
| *IL6* | rs1554606 | 0.7246 |
| *HPR* | rs1697370 | 0.1983 |
| *HP* | - | 1 |
| **Bamilike** | *IL1A* | rs1800794 | 04 | 12 | 0.886 |
| *IL1RN* | rs2234663 | 1 |
| *IL4RN* | rs79071878 | 1 |
| *HLA-G* | rs371194629 | 1 |
| *IL6* | rs1554606 | 1 |
| *HPR* | rs1697370 | 1 |
| *HP* | - | 1 |
| **Banyangi** | *IL1A* | rs1800794 | 00 | 12 | 0.2782 |
| *IL1RN* | rs2234663 | 1 |
| *IL4RN* | rs79071878 | 0.5542 |
| *HLA-G* | rs371194629 | 1 |
| *IL6* | rs1554606 | 1 |
| *HPR* | rs1697370 | 0.4386 |
| *HP* | - | 0.0659 |
| **Wimbum** | *IL1A* | rs1800794 | 00 | 02 | 1 |
| *IL1RN* | rs2234663 | 1 |
| *IL4RN* | rs79071878 | 1 |
| *HLA-G* | rs371194629 | 1 |
| *IL6* | rs1554606 | 1 |
| *HPR* | rs1697370 | 1 |
| *HP* | - | 1 |
| **Modelle** | *IL1A* | rs1800794 | 00 | 01 | 1 |
| *IL1RN* | rs2234663 | 1 |
| *IL4RN* | rs79071878 | 1 |
| *HLA-G* | rs371194629 | 1 |
| *IL6* | rs1554606 | 1 |
| *HPR* | rs1697370 | 1 |
| *HP* | - | 1 |
| **Tika** | *IL1A* | rs1800794 | 00 | 01 | 1 |
| *IL1RN* | rs2234663 | 1 |
| *IL4RN* | rs79071878 | 1 |
| *HLA-G* | rs371194629 | 1 |
| *IL6* | rs1554606 | 1 |
| *HPR* | rs1697370 | 1 |
| *HP* | - | 1 |
| Sudano-Sao | **Foulani** | *IL1A* | rs1800794 | 00 | 01 | 1 |
| *IL1RN* | rs2234663 | 1 |
| *IL4RN* | rs79071878 | 1 |
| *HLA-G* | rs371194629 | 1 |
| *IL6* | rs1554606 | 1 |
| *HPR* | rs1697370 | 1 |
| *HP* | - | 1 |
| **Moudan** | *IL1A* | rs1800794 | 00 | 05 | 1 |
| *IL1RN* | rs2234663 | 1 |
| *IL4RN* | rs79071878 | 1 |
| *HLA-G* | rs371194629 | 1 |
| *IL6* | rs1554606 | 1 |
| *HPR* | rs1697370 | 1 |
| *HP* | - | 0.3651 |

M.Eth.G: Major ethnic groups; Eth. Pools: pooled Ethno-linguistic subgroups; Eth. Grp: Ethno-linguistic subgroups; HWE-P: Hardy-Weinberg equilibrium p value for unaffected individuals; rsid: reference SNP identification code.

The Bantu contained the Beti-Fang which include the Bulu, Eton, Fan, Iyassa, Kwasse, Maabi, Mvae and Ngoumba ethno-linguistic subgroups. The Wovea is formed by the Douala and Bassa ethno-linguistic subgroups. The Semi-Bantu contained the Mundani, Bamilike, Banyangi, Wimbum, Tika, and Modelle ethno-linguistic subgroups. The Sudano-Sao is formed by the Foulani and Moudan ethno-linguistic subgroups.