**Table S1:** Characteristics of eligible case-control studies included in this meta-analysis.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **HLA Alleles** | **Study ID/Year** | **Population size** | **Population type** | **Patient (n)** | **Control (n)** |
| **B\*50** | ([Hamdi, Al-Hababi et al. 2014](#_ENREF_10)) | ESRD=700  Control= 210 | Saudi Arabia | 81 | 37 |
|  | ([Pan, Ma et al. 2019](#_ENREF_18)) | ESRD=499  Control=1584 | China | 3 | 6 |
|  | ([Nassar, Al-Shamahy et al. 2017](#_ENREF_15)) | ESRD=187  Control=194 | Yemen | 28 | 25 |
|  | ([Mosaad, Mansour et al. 2014](#_ENREF_14)) | ESRD=334  Control=191 | Kuwait | 88 | 39 |
|  | ([Rivera, Márquez et al. 2012](#_ENREF_21)) | ESRD=188  Control=203 | Venezuela | 1 | 1 |
|  | ([Al-Taie, Al-Ghurabi et al. 2012](#_ENREF_2)) | ESRD=100  Control=75 | Iraqi | 15 | 9 |
|  | ([Ademović-Sazdanić and Vojvodić 2019](#_ENREF_1)) | ESRD=230  Control=290 | Serbia | 3 | 3 |
|  | ([Shao, Yang et al. 2018](#_ENREF_26)) | ESRD=163  Control= 14,529 | China | 1 | 1 |
|  | ([Nassar, Al-Shamahy et al. 2015](#_ENREF_16)) | ESRD=50  Control=50 | Yemen | 1 | 0 |
|  | ([Karahan, Seyhun et al. 2009](#_ENREF_12)) | ESRD=587  Control=2643 | Turkish | 37 | 165 |
|  | ([Noureen, Shah et al. 2020](#_ENREF_17)) | ESRD=497  Control=672 | Pakistan | 49 | 43 |
|  | ([Chowdhry, Makroo et al. 2016](#_ENREF_6)) | ESRD= 148  Control= 191 | India | 3 | 3 |
|  | ([Patel, Patel et al. 2013](#_ENREF_19)) | ESRD=276  ESRD=276 | India | 8 | 9 |
|  | ([Shang, Shen et al. 2016](#_ENREF_25)) | ESRD=1464  Control=10,000 | China | 26 | 152 |
|  | ([Almogren, Shakoor et al. 2012](#_ENREF_3)) | ESRD=235  Control=60 | Saudi Arabia | 57 | 15 |
| **B\*40** |  |  |  |  |  |
|  | ([Rivera, Márquez et al. 2012](#_ENREF_21)) | ESRD=188  Control=203 | Venezuela | 2 | 11 |
|  | ([Cao, Xie et al. 2014](#_ENREF_5)) | ESRD= 4541  Control= 3744 | China | 1626 | 1437 |
|  | ([Pan, Ma et al. 2019](#_ENREF_18)) | ESRD=499  Control=1584 | China | 48 | 128 |
|  | ([Al-Taie, Al-Ghurabi et al. 2012](#_ENREF_2)) | ESRD=100  Control=75 | Iraqi | 2 | 2 |
|  | ([Hamdi, Al-Hababi et al. 2014](#_ENREF_10)) | ESRD= 700  Control=210 | Saudi Arabia | 14 | 3 |
|  | ([Ademović-Sazdanić and Vojvodić 2019](#_ENREF_1)) | ESRD=230  Control=290 | Serbia | 4 | 5 |
|  | ([Dai, Chu et al. 2015](#_ENREF_7)) | ESRD= 141  Control=190 | Taiwan | 1 | 0 |
|  | ([Hieu, Ha et al. 2019](#_ENREF_11)) | ESRD=196  Control=187 | Vietnam | 27 | 19 |
|  | ([Nassar, Al-Shamahy et al. 2015](#_ENREF_16)) | ESRD=50  Control=50 | Yemen | 1 | 0 |
|  | ([Nassar, Al-Shamahy et al. 2017](#_ENREF_15)) | ESRD=187  Control=194 | Yemen | 6 | 4 |
|  | ([Shao, Yang et al. 2018](#_ENREF_26)) | ESRD=163  Control= 14,529 | China | 18 | 14 |
|  | ([Noureen, Shah et al. 2020](#_ENREF_17)) | ESRD=497  Control=672 | Pakistan | 110 | 191 |
|  | ([Chowdhry, Makroo et al. 2016](#_ENREF_6)) | ESRD=148  Control=191 | India | 17 | 19 |
|  | ([Patel, Patel et al. 2013](#_ENREF_19)) | ESRD=276  Control=276 | India | 9 | 4 |
|  | ([Shang, Shen et al. 2016](#_ENREF_25)) | ESRD=1464  Control=10,000 | China | 41 | 0 |
| **HLA-DRB1** |  |  |  |  |  |
| **DRB1\*12** | ([Pan, Ma et al. 2019](#_ENREF_18)) | ESRD=499  Control=1584 | China | 13 | 55 |
|  | ([Kodaz, Akdeniz et al. 2017](#_ENREF_13)) | ESRD= 372  Control=156 | Turkey | 13 | 13 |
|  | ([Mosaad, Mansour et al. 2014](#_ENREF_14)) | ESRD=334  Control=191 | Kuwait | 10 | 2 |
|  | ([Hamdi, Al-Hababi et al. 2014](#_ENREF_10)) | ESRD=350  Control=105 | Saudi Arabia | 5 | 1 |
|  | ([Pérez-Luque, Malacara et al. 2000](#_ENREF_20)) | ESRD=42  Control= 101 | Mexican | 0 | 1 |
|  | ([Ademović-Sazdanić and Vojvodić 2019](#_ENREF_1)) | ESRD=230  Control=290 | Serbia | 2 | 2 |
|  | ([Dai, Chu et al. 2015](#_ENREF_7)) | ESRD=141  Control=190 | Taiwan | 29 | 48 |
|  | ([Hieu, Ha et al. 2019](#_ENREF_11)) | ESRD= 196  Control=187 | Vietnam | 105 | 88 |
|  | ([Nassar, Al-Shamahy et al. 2015](#_ENREF_16)) | ESRD=50  Control=50 | Yemen | 0 | 1 |
|  | ([Nassar, Al-Shamahy et al. 2017](#_ENREF_15)) | ESRD= 187  Control= 194 | Yemen | 0 | 3 |
|  | ([Karahan, Seyhun et al. 2009](#_ENREF_12)) | ESRD= 587  Control=2643 | Turkish | 28 | 89 |
|  | ([Chowdhry, Makroo et al. 2016](#_ENREF_6)) | ESRD=148  Control=191 | India | 3 | 3 |
|  | ([Patel, Patel et al. 2013](#_ENREF_19)) | ESRD=  Control= | India | 19 | 20 |
|  | ([Shaheen, Soliman et al. 2013](#_ENREF_24)) | ESRD=110  Control=143 | Egypt | 3 | 3 |
|  | ([Shang, Shen et al. 2016](#_ENREF_25)) | ESRD=1464  Control=10,000 | China | 317 | 1992 |
|  | ([Bhallil, Ibrahimi et al. 2017](#_ENREF_4)) | ESRD= 75  Control= 169 | Moroccan | 1 | 2 |
|  | ([Almogren, Shakoor et al. 2012](#_ENREF_3)) | ESRD=235  Control=60 | Saudi Arabia | 4 | 1 |
| **DRB1\*13** |  |  |  |  |  |
|  | ([Fejzić, Karamehić et al. 2017](#_ENREF_9)) | ESRD=186  Control=50 | Bosnia | 38 | 20 |
|  | ([Pan, Ma et al. 2019](#_ENREF_18)) | ESRD=499  Control=1584 | China | 24 | 99 |
|  | ([Mosaad, Mansour et al. 2014](#_ENREF_14)) | ESRD=334  Control=191 | Kuwait | 88 | 46 |
|  | ([Hamdi, Al-Hababi et al. 2014](#_ENREF_10)) | ESRD=700  Control=210 | Saudi Ariba | 114 | 28 |
|  | ([Pérez-Luque, Malacara et al. 2000](#_ENREF_20)) | ESRD=42  Control=101 | Mexico | 3 | 2 |
|  | ([Ademović-Sazdanić and Vojvodić 2019](#_ENREF_1)) | ESRD=230  Control=290 | Serbia | 10 | 30 |
|  | ([Dai, Chu et al. 2015](#_ENREF_7)) | ESRD=141  Control=190 | Taiwan | 6 | 17 |
|  | ([Hieu, Ha et al. 2019](#_ENREF_11)) | ESRD=196  Control=187 | Vietnam | 15 | 17 |
|  | ([Nassar, Al-Shamahy et al. 2015](#_ENREF_16)) | ESRD=50  Control=50 | Yemen | 17 | 15 |
|  | ([Nassar, Al-Shamahy et al. 2017](#_ENREF_15)) | ESRD=187  Control=194 | Yemen | 50 | 48 |
|  | ([Karahan, Seyhun et al. 2009](#_ENREF_12)) | ESRD= 587  Control=2643 | Turkish | 110 | 522 |
|  | ([Chowdhry, Makroo et al. 2016](#_ENREF_6)) | ESRD=148  Control=191 | India | 17 | 18 |
|  | ([de Holanda, Klumb et al. 2018](#_ENREF_8)) | ESRD=108  Control= 216 | Bosnia | 20 | 65 |
|  | ([Patel, Patel et al. 2013](#_ENREF_19)) | ESRD=276  Control=276 | India | 55 | 58 |
|  | ([Shaheen, Soliman et al. 2013](#_ENREF_23)) | ESRD=110  Control=143 | Egypt | 55 | 57 |
|  | ([Shang, Shen et al. 2016](#_ENREF_25)) | ESRD=1464  Control=10,000 | China | 151 | 1004 |
|  | ([Bhallil, Ibrahimi et al. 2017](#_ENREF_4)) | ESRD=75  CONTROL=169 | Moroccan | 14 | 47 |
|  | ([Almogren, Shakoor et al. 2012](#_ENREF_3)) | ESRD=235  Control=60 | Saudi Arabia | 59 | 15 |
| **HLA-DQB1** |  |  |  |  |  |
| **DQB1\*6** | ([Fejzić, Karamehić et al. 2017](#_ENREF_9)) | ESRD=186  Control=59 | Bosnia | 62 | 29 |
|  | ([Pan, Ma et al. 2019](#_ENREF_18)) | ESRD=499  Control 1584 | China | 23 | 147 |
|  | ([Hamdi, Al-Hababi et al. 2014](#_ENREF_10)) | ESRD=700  Control=210 | Saudi Arabia | 201 | 54 |
|  | ([Kodaz, Akdeniz et al. 2017](#_ENREF_13)) | ESRD= 156  Control= 216 | Turkey | 51 | 81 |
|  | ([Pérez-Luque, Malacara et al. 2000](#_ENREF_20)) | ESRD=47  Control=101 | Mexico | 5 | 1 |
|  | ([Almogren, Shakoor et al. 2012](#_ENREF_3)) | ESRD=235  Control=60 | Saudi Arabia | 96 | 25 |
| **HLA-DQA1** |  |  |  |  |  |
| **DQA1\*3** | ([Pérez-Luque, Malacara et al. 2000](#_ENREF_20)) | ESRD=42  Control=101 | Mexico | 24 | 45 |
|  | ([Rostami, Shafighiee et al. 2013](#_ENREF_22)) | ESRD=874  Control=874 | Iran | 83 | 101 |
| **DQA1\*6** |  |  |  |  |  |

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