

**Table SI. Baseline characteristics of children and their parents stratified by diagnosis of atopic dermatitis (AD)**

|   | Preterm children        |                              | Term children           |                              | All children            |                              |
|---|-------------------------|------------------------------|-------------------------|------------------------------|-------------------------|------------------------------|
|   | AD<br>(n = 17)<br>n (%) | Not AD<br>(n = 128)<br>n (%) | AD<br>(n = 77)<br>n (%) | Not AD<br>(n = 211)<br>n (%) | AD<br>(n = 94)<br>n (%) | Not AD<br>(n = 339)<br>n (%) |
| Male sex (n = 450)  | 11 (59.2)               | 77 (59.2)                    | 43 (55.8)               | 128 (58.4)                   | 54 (57.4)               | 205 (58.7)                   |
| Older siblings (n = 364)  | 5 (33.3)                | 30 (33.3)                    | 22 (31.0)               | 72 (38.3)                    | 27 (31.4)               | 102 (36.7)                   |
| Birth method (n = 449)  |                         |                              |                         |                              |                         |                              |
| Vaginal   | 6 (35.3)                | 46 (35.7)                    | 44 (57.1)               | 133 (60.7)                   | 50 (53.2)               | 179 (51.4)                   |
| Caesarean section   | 11 (64.7)               | 83 (64.3)                    | 33 (42.9)               | 86 (39.3)                    | 44 (46.8)               | 169 (48.6)                   |
| Filaggrin gene mutation (n = 447)   |                         |                              |                         |                              |                         |                              |
| Wild-type   | 16 (94.1)               | 124 (96.1)                   | 69 (89.6)               | 198 (91.2)                   | 85 (90.4)               | 322 (93.1)                   |
| Heterozygote  | 1 (5.9)                 | 5 (3.9)                      | 8 (10.4)                | 19 (8.8)                     | 9 (9.6)                 | 24 (6.9)                     |
| Season of birth (n = 445)   |                         |                              |                         |                              |                         |                              |
| Spring  | 4 (23.5)                | 26 (20.3)                    | 18 (23.4)               | 43 (19.9)                    | 22 (23.4)               | 69 (20.1)                    |
| Summer  | 5 (29.4)                | 70 (54.7)                    | 19 (24.7)               | 45 (20.8)                    | 24 (25.5)               | 115 (33.4)                   |
| Autumn  | 6 (35.3)                | 20 (15.6)                    | 17 (22.1)               | 76 (35.2)                    | 23 (24.5)               | 96 (27.9)                    |
| Winter  | 2 (11.8)                | 12 (9.4)                     | 23 (29.9)               | 52 (24.1)                    | 25 (26.6)               | 64 (18.6)                    |
| Parental characteristics  |                         |                              |                         |                              |                         |                              |
| Maternal atopic disease (atopic dermatitis, asthma, hay fever or allergy) (n = 368) | 9 (60.0)                | 32 (35.2)                    | 26 (44.8)               | 56 (34.6)                    | 39 (43.8)               | 100 (35.6)                   |
| Paternal atopic disease (atopic dermatitis, asthma, hay fever or allergy) (n = 294) | 6 (42.9)                | 21 (35.0)                    | 32 (55.2)               | 56 (34.1)                    | 38 (52.8)               | 77 (34.7)                    |
| One parent with atopic disease (n = 376)  | 7 (43.8)                | 45 (47.4)                    | 38 (51.4)               | 76 (39.4)                    | 45 (50.0)               | 121 (42.0)                   |
| Both parents with atopic disease (n = 376)  | 4 (25.0)                | 4 (4.2)                      | 12 (16.2)               | 24 (12.4)                    | 15 (17.9)               | 21 (7.2)                     |
| Maternal anxiety (n = 363)  | 1 (6.7)                 | 6 (6.8)                      | 16 (21.9)               | 26 (13.9)                    | 17 (19.3)               | 32 (11.6)                    |
| Paternal anxiety (n = 282)  | 1 (7.1)                 | 5 (8.8)                      | 3 (5.5)                 | 8 (5.1)                      | 4 (5.8)                 | 13 (6.1)                     |
| Maternal depression (n = 365)   | 4 (26.7)                | 16 (17.8)                    | 13 (18.1)               | 29 (15.4)                    | 17 (19.5)               | 45 (16.2)                    |
| Paternal depression (n = 281)   | 2 (14.3)                | 6 (10.7)                     | 5 (9.1)                 | 16 (10.3)                    | 7 (10.1)                | 22 (10.4)                    |
| Highest maternal educational status (n = 355)                                       |                         |                              |                         |                              |                         |                              |
| General upper secondary education   | 3 (21.4)                | 13 (14.8)                    | 6 (8.8)                 | 18 (9.7)                     | 9 (11.0)                | 31 (11.4)                    |
| Short and medium-cycle higher education   | 5 (35.7)                | 39 (44.3)                    | 24 (35.3)               | 68 (36.8)                    | 29 (35.4)               | 107 (39.2)                   |
| Long-cycle higher education   | 6 (42.9)                | 36 (40.9)                    | 38 (55.9)               | 199 (53.5)                   | 44 (53.7)               | 135 (49.5)                   |
| Highest paternal educational status (n = 273)                                       |                         |                              |                         |                              |                         |                              |
| General upper secondary education   | 2 (15.4)                | 14 (23.7)                    | 9 (18.0)                | 32 (21.2)                    | 11 (17.5)               | 46 (21.9)                    |
| Short and medium-cycle higher education   | 3 (23.1)                | 15 (25.4)                    | 14 (28.0)               | 49 (32.5)                    | 17 (27.0)               | 64 (30.5)                    |
| Long-cycle higher education   | 8 (61.5)                | 30 (50.8)                    | 27 (54.0)               | 70 (46.4)                    | 35 (55.6)               | 100 (47.6)                   |
| Exposures in pregnancy  |                         |                              |                         |                              |                         |                              |
| Indoor painting (n = 367)   | 5 (33.3)                | 20 (22.2)                    | 29 (39.7)               | 54 (28.6)                    | 34 (38.6)               | 74 (26.5)                    |
| New floors/carpets (n = 369)  | 2 (13.3)                | 2 (2.2)                      | 9 (12.3)                | 10 (5.3)                     | 11 (12.5)               | 12 (4.3)                     |
| Make-up use (n = 345)   | 12 (85.7)               | 65 (77.4)                    | 57 (87.9)               | 143 (79.0)                   | 70 (87.5)               | 208 (78.5)                   |
| Hair colouring (n = 370)  | 3 (20.0)                | 16 (17.6)                    | 1 (1.4)                 | 35 (18.3)                    | 4 (4.5)                 | 51 (18.1)                    |
| Exposure to domestic pet during pregnancy (n = 370)                                 | 2 (13.3)                | 32 (35.2)                    | 9 (12.3)                | 39 (20.4)                    | 11 (12.5)               | 71 (25.2)                    |
| Exposure to domestic dog during pregnancy (n = 391)                                 | 14 (87.5)               | 88 (89.8)                    | 72 (96.0)               | 188 (93.1)                   | 86 (94.5)               | 276 (92.0)                   |