

**Supplemental Table S1:** all components present on the ImmunoCAP ISAC 112, with their sensitization frequency and median ISU value in the total population (n=305)

| Component  | Source                | Allergen type | Sensitization frequency (%) | Median ISU value |
|------------|-----------------------|---------------|-----------------------------|------------------|
| Bet v 1    | Birch pollen          | Inhalant      | 72,5                        | 19,4             |
| Cor a 1.04 | Hazelnut              | Food          | 72,1                        | 6,7              |
| Mal d 1    | Apple                 | Food          | 67,9                        | 7,5              |
| Aln g 1    | Alder pollen          | Inhalant      | 67,9                        | 6,2              |
| Cor a 1.01 | Hazel pollen          | Inhalant      | 65,6                        | 4,3              |
| Phl p 1    | Timothy pollen        | Inhalant      | 63,0                        | 12,5             |
| Pru p 1    | Peach                 | Food          | 62,3                        | 4,0              |
| Cyn d 1    | Bermuda pollen        | Inhalant      | 57,4                        | 5,1              |
| Ara h 8    | Peanut                | Food          | 53,8                        | 1,9              |
| Fel d 1    | Cat                   | Inhalant      | 46,9                        | 6,1              |
| Phl p 5    | Timothy pollen        | Inhalant      | 45,2                        | 9,6              |
| Der f 2    | Dermatophagoides mite | Inhalant      | 44,6                        | 14,7             |
| Der p 2    | Dermatophagoides mite | Inhalant      | 43,3                        | 9,7              |
| Phl p 4    | Timothy pollen        | Inhalant      | 42,0                        | 2,7              |
| Der f 1    | Dermatophagoides mite | Inhalant      | 39,3                        | 7,4              |
| Der p 1    | Dermatophagoides mite | Inhalant      | 38,4                        | 7,1              |
| Gly m 4    | Soy                   | Food          | 37,7                        | 1,2              |
| Phl p 2    | Timothy pollen        | Inhalant      | 33,1                        | 5,0              |
| Phl p 6    | Timothy pollen        | Inhalant      | 32,5                        | 1,8              |
| Ole e 1    | Olive pollen          | Inhalant      | 29,8                        | 5,2              |
| Api g 1    | Celery                | Food          | 26,9                        | 1,7              |
| Act d 8    | Kiwi                  | Food          | 21,3                        | 0,7              |
| Can f 5    | Dog                   | Inhalant      | 20,7                        | 2,0              |
| Can f 1    | Dog                   | Inhalant      | 20,3                        | 5,6              |
| Ara h 6    | Peanut                | Food          | 19,7                        | 6,5              |
| Ara h 2    | Peanut                | Food          | 18,0                        | 4,9              |
| Equ c 1    | Horse                 | Inhalant      | 17,4                        | 2,6              |
| Mer a 1    | Mercury pollen        | Inhalant      | 16,7                        | 2,6              |
| Hev b 8    | Latex                 | Other         | 16,1                        | 2,8              |
| Cup a 1    | Cypress pollen        | Inhalant      | 15,4                        | 1,0              |
| Bet v 2    | Birch pollen          | Inhalant      | 14,8                        | 2,3              |
| Phl p 11   | Timothy pollen        | Inhalant      | 14,4                        | 6,5              |
| Fel d 4    | Cat                   | Inhalant      | 13,8                        | 2,9              |
| Phl p 12   | Timothy pollen        | Inhalant      | 13,1                        | 1,1              |
| Mus m 1    | Mouse                 | Inhalant      | 12,1                        | 3,8              |
| Ara h 1    | Peanut                | Food          | 11,8                        | 10,6             |
| Jug r 1    | Walnut                | Food          | 11,8                        | 3,8              |
| Lep d 2    | Lepidoglyphus mite    | Inhalant      | 11,5                        | 1,5              |
| Pla a 2    | Plane pollen          | Inhalant      | 10,8                        | 0,7              |
| Jug r 3    | Walnut                | Food          | 10,5                        | 1,1              |
| MUXF3      | Bromelin              | Other         | 10,5                        | 0,6              |
| Alt a 1    | Alternaria            | Inhalant      | 9,8                         | 3,0              |
| Gly m 6    | Soy                   | Food          | 9,8                         | 3,4              |

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|-------------|-----------------------|---------------|-----------------------------|------------------|
| Ara h 3     | Peanut                | Food          | 9,2                         | 6,9              |
| Cry j 1     | Japanese cedar pollen | Inhalant      | 9,2                         | 0,8              |
| Can f 2     | Dog                   | Inhalant      | 8,2                         | 4,3              |
| Act d 2     | Kiwi                  | Food          | 7,9                         | 0,8              |
| Asp f 6     | Aspergillus           | Inhalant      | 7,5                         | 3,0              |
| Art v 1     | Mugwort pollen        | Inhalant      | 7,5                         | 2,5              |
| Act d 1     | Kiwi                  | Food          | 7,2                         | 2,6              |
| Der p 10    | Dermatophagoides mite | Inhalant      | 7,2                         | 0,8              |
| Blo t 5     | Blomia mite           | Inhalant      | 6,9                         | 2,8              |
| Ana o 2     | Cashew nut            | Food          | 6,6                         | 1,4              |
| Ber e 1     | Brazil nut            | Food          | 6,2                         | 0,7              |
| Fel d 2     | Cat                   | Inhalant      | 6,2                         | 2,0              |
| Jugr2-MUXF3 | Walnut                | Food          | 6,2                         | 0,5              |
| Can f 3     | Dog                   | Inhalant      | 5,9                         | 2,8              |
| Gal d 3     | Egg white             | Food          | 5,9                         | 1,2              |
| Pru p 3     | Peach                 | Food          | 5,9                         | 1,3              |
| Cor a 9     | Hazelnut              | Food          | 5,6                         | 0,9              |
| Pen m 2     | Shrimp                | Food          | 5,6                         | 3,0              |
| Bos d 8     | Cow's milk            | Food          | 5,2                         | 6,6              |
| Ole e 9     | Olive pollen          | Inhalant      | 5,2                         | 0,7              |
| Gal d 1     | Egg white             | Food          | 5,2                         | 3,6              |
| Hev b 6     | Latex                 | Other         | 5,2                         | 6,9              |
| Che a 1     | Pigweed pollen        | Inhalant      | 4,9                         | 0,5              |
| Asp f 3     | Aspergillus           | Inhalant      | 4,9                         | 1,4              |
| Gly m 5     | Soy                   | Food          | 4,9                         | 1,3              |
| Pla a 3     | Plane pollen          | Inhalant      | 4,9                         | 0,8              |
| Ves v 5     | Common wasp           | Other         | 4,9                         | 0,6              |
| Bos d 4     | Cow's milk            | Food          | 4,6                         | 1,0              |
| Cor a 8     | Hazelnut              | Food          | 4,6                         | 0,8              |
| Bos d 5     | Cow's milk            | Food          | 4,3                         | 4,2              |
| Gal d 2     | Egg white             | Food          | 4,3                         | 4,1              |
| Bla g 7     | Cockroach             | Inhalant      | 3,9                         | 13,3             |
| Ses i 1     | Sesame                | Food          | 3,9                         | 2,7              |
| Ara h 9     | Peanut                | Food          | 3,6                         | 1,4              |
| Art v 3     | Mugwort pollen        | Inhalant      | 3,6                         | 1,5              |
| Equ c 3     | Horse                 | Inhalant      | 3,6                         | 1,7              |
| Pen m 1     | Shrimp                | Food          | 3,6                         | 10,4             |
| Phl p 7     | Timothy pollen        | Inhalant      | 3,6                         | 9,7              |
| Ani s 3     | Anisakis              | Other         | 3,3                         | 17,6             |
| Bet v 4     | Birch pollen          | Inhalant      | 3,3                         | 6,6              |
| Alt a 6     | Alternaria            | Inhalant      | 3,0                         | 1,1              |
| Bos d 6     | Cow's milk & beef     | Food          | 3,0                         | 1,2              |
| Gad c 1     | Cod                   | Food          | 3,0                         | 19,5             |
| Pen m 4     | Shrimp                | Food          | 2,6                         | 1,1              |
| Asp f 1     | Aspergillus           | Inhalant      | 2,3                         | 1,0              |

| <b>Component</b>  | <b>Source</b>         | <b>Allergen type</b> | <b>Sensitization frequency (%)</b> | <b>Median ISU value</b> |
|-------------------|-----------------------|----------------------|------------------------------------|-------------------------|
| Par j 2           | Wall pellitory pollen | Inhalant             | 2,3                                | 0,8                     |
| Pol d 5           | Paper wasp            | Other                | 2,3                                | 1,2                     |
| Tri a 14          | Wheat                 | Food                 | 2,3                                | 1,6                     |
| Bla g 2           | Cockroach             | Inhalant             | 2,0                                | 0,4                     |
| Gal d 5           | Egg yolk/chicken      | Food                 | 2,0                                | 8,7                     |
| Api m 4           | Honey bee             | Other                | 1,6                                | 0,6                     |
| Cla h 8           | Cladosporium          | Inhalant             | 1,6                                | 0,8                     |
| Ole e 7           | Olive pollen          | Inhalant             | 1,6                                | 0,8                     |
| Bos d lactoferrin | Cow's milk            | Food                 | 1,3                                | 0,6                     |
| Hev b 5           | Latex                 | Other                | 1,3                                | 3,9                     |
| Pla a 1           | Plane pollen          | Inhalant             | 1,3                                | 0,7                     |
| Tri a 19.0101     | Wheat                 | Food                 | 1,3                                | 2,3                     |
| Tri a aA TI       | Wheat                 | Food                 | 1,3                                | 0,7                     |
| Hev b 1           | Latex                 | Other                | 1,0                                | 2,6                     |
| Hev b 3           | Latex                 | Other                | 1,0                                | 3,1                     |
| Pla l 1           | Plantain              | Inhalant             | 1,0                                | 6,0                     |
| Sal k 1           | Saltwort              | Inhalant             | 1,0                                | 1,5                     |
| Api m 1           | Honey bee             | Other                | 0,7                                | 0,5                     |
| Amb a 1           | Ragweed               | Inhalant             | 0,3                                | 1,0                     |
| Ani s 1           | Anisakis              | Other                | 0,3                                | 0,3                     |
| Bla g 1           | Cockroach             | Inhalant             | 0,3                                | 0,3                     |
| Act d 5           | Kiwi                  | Food                 | 0,0                                | 0,0                     |
| Bla g 5           | Cockroach             | Inhalant             | 0,0                                | 0,0                     |
| Fag e 2           | Buckwheat             | Food                 | 0,0                                | 0,0                     |