

## Online Repository

### **The Efficacy of Omalizumab Treatment in Chronic Spontaneous Urticaria is Associated with Basophil Phenotypes**

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**Table E1**

	<b>Basopenic (B)</b>	<b>Non-Basopenic (NB)</b>
<b>Responder (R)</b>	1	6
<b>Non-Responder (NR)</b>	7	3

Basopenic <8000 basophils /mL

Non-responder < 10% histamine release in response to optimal dose of anti-IgE

Chi-squared p = 0.004

### Supplemental Figure Legends:


**Figure E1:** Basophil counts (alcian blue-based) distribution for all subjects (n=18) at baseline.

**Figure E2:** Consort diagram of subject enrollment.

**Figure E3.** *In vitro* response kinetics for stimulation with FMLP during treatment with omalizumab. (A) Histamine release in response to 1  $\mu$ M FMLP for the 3 groups (2-parameter categorization). (B) BAT CD63 response to 1  $\mu$ M FMLP for the 3 groups. For both panels, gray line – CSU-R/NB average, Orange line – CSU-NR/NB average, Blue line – CSU-NR/B average.

**Figure E4:** *In vitro* basophil CD63 expression response to anti-IgE stimulation at the indicated day of study. (A) Responder/Non-basopenics (CSU-R/NB), (n=6). (B) Non-responder/Non-basopenics (CSU-NR/NB) (N=3). (C) Non-responder/basopenics (CSU-NR/B) (n=7). The colored lines represent each visit day.

**Figure E5:** Kinetics of the decrease in symptom scores vs. the kinetics of the decrease in basophil surface IgE. Three groups defined by the relationships;  $IgE T_{1/2} \ll UAS T_{1/2}$ ,  $IgE T_{1/2} \approx UAS T_{1/2}$ ,  $IgE T_{1/2} \gg UAS T_{1/2}$ . (A) The symptom change relative to baseline in these 3 groups and (B) kinetics of the basophil surface IgE changes relative to baseline in the same 3 groups as A. Arrows indicate 50% of measure.



**Figure E6:** Kinetics of basophil counts during treatment. Average counts grouped by 2-parameter categories. Black line (n=6)– CSU-R/NB average, Orange line (n=3) – CSU-NR/NB average, Blue line (n=7) – CSU-NR/B average, Green dashed line (n=16) – Average.

**Figure E7:** (A) Kinetics of pDC surface IgE, (B) total FcεRI and (C) unoccupied FcεRI during treatment for 5 subjects.

**Table E1:** Association between responder status (R, NR) and basopenic status (NB,B). Chi-squared analysis,  $p < 0.004$ .