Figure 1

A

B

C

D

E

F

Severe asthma (n=7)
Healthy controls (n=5)

B a s a l T N F α
C C L 5 (pg/ml)

B a s a l T N F α
C C L 1 1 (pg/ml)

B a s a l T N F α
C X C L 1 0 (pg/ml)

B a s a l T N F α
C C L 5 (% of TNF/DMSO)

B a s a l T N F α
C C L 1 1 (% of TNF/DMSO)

B a s a l T N F α
C X C L 1 0 (% of TNF/DMSO)

Healthy Control
Severe asthma (n=7)

Healthy Control
Severe asthma (n=7)

Healthy Control
Severe asthma (n=7)
Figure 2

A. Immunofluorescence images showing GRα expression in Healthy Control and Severe Asthma samples. Images are taken under different magnifications (X200 and X100).

B. Western blot analysis of Phospho-GRα (Ser211) and β-actin expression in Healthy Control and Severe Asthma samples under Basal/DMSO and Fluticasone (100 nM) conditions.

C. Bar graphs showing the fold change in GILZ expression over Basal for Healthy Controls and Severe Asthma samples under Basal/DMSO and Fluticasone (100 nM) conditions.
Figure 3

A

Healthy Controls  Severe Asthma

PP5/GAPDH

B

Count

Log FITC (PP5)

Isotype Control  Healthy Control  Severe Asthma

**

Δ GMFI of PP5 (FITC)
**Figure 4**

**A**

- **PP5 Silencing (% Control)**
  - Scrambled siRNA
  - siRNA PP5

- **GILZ mRNA expression (% FP in scrambled siRNA)**
  - Scrambled siRNA
  - PP5 siRNA

- **GRα nuclear staining**
  - Basal
  - Fp

**B**

- **CCL11 (pg/ml)**
  - Basal/DMSO
  - TNFα
  - TNFα/Fluticasone

**C**

- **CCL5 (pg/ml)**
  - Basal/DMSO
  - TNFα
  - TNFα/Fluticasone

Note: NS, *, ** indicate statistical significance levels.
Figure 5

A

Healthy Control

Severe Asthma

PP5

PP5

IC

IC

α-actin

α-actin

B

% ASM area/biopsy

Healthy Control

Severe asthma

NS

C

PP5 staining (% of total ASM area)

Healthy Control

Severe asthma

P = 0.0056
Subjects demographics and clinical characteristics (In-Vitro Experiments).

Data are shown as means (SEMs). *P < 0.05, **<0.01 versus healthy control. FEV1 (forced expiratory volume in 1 second), FVC (forced vital capacity); ICS (inhaled corticosteroid ); NA (Data not available), ICS, inhaled corticosteroids. PC20, provocative concentration of methacholine to induce a 20% reduction in FEV1.

Table 1

<table>
<thead>
<tr>
<th></th>
<th>Healthy Control subjects</th>
<th>Severe asthma patients</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number</strong></td>
<td>8</td>
<td>14</td>
</tr>
<tr>
<td><strong>Gender, M/F</strong></td>
<td>2/4</td>
<td>8/6</td>
</tr>
<tr>
<td><strong>Age (years)</strong></td>
<td>43.83 (5.63)</td>
<td>49.2 (3.45)</td>
</tr>
<tr>
<td><strong>FEV1 (L)</strong></td>
<td>3.48 (0.47)</td>
<td>2.6 (0.22)*</td>
</tr>
<tr>
<td><strong>FEV1 % predicted</strong></td>
<td>87.48 (5.21)</td>
<td>79.1 (5.42)</td>
</tr>
<tr>
<td><strong>FEV1 / FVC (%)</strong></td>
<td>83.38 (4.12)</td>
<td>70.7 (3.27)*</td>
</tr>
<tr>
<td><strong>ICS (µg)</strong></td>
<td>NA</td>
<td>1271.4 (135.24)</td>
</tr>
<tr>
<td><strong>Receiving oral corticosteroids (no.)</strong></td>
<td>NA</td>
<td>5</td>
</tr>
<tr>
<td><strong>Age of asthma onset</strong></td>
<td>NA</td>
<td>32.8 (3.66)</td>
</tr>
<tr>
<td><strong>PC20 (mg/ml)</strong></td>
<td>&gt;16</td>
<td>6.7±1.31</td>
</tr>
<tr>
<td><strong>Atopic (no.)</strong></td>
<td>0</td>
<td>10</td>
</tr>
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</table>
### Table 2

<table>
<thead>
<tr>
<th></th>
<th>Healthy Control subjects</th>
<th>Severe asthma patients</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number</strong></td>
<td>8</td>
<td>20</td>
</tr>
<tr>
<td><strong>Gender, M/F</strong></td>
<td>8/0</td>
<td>18/2</td>
</tr>
<tr>
<td><strong>Age (years)</strong></td>
<td>45 (5.21)</td>
<td>46.5 (2.5)</td>
</tr>
<tr>
<td><strong>FEV1 (L)</strong></td>
<td>3.91 (0.3)</td>
<td>2.87 (0.19)*</td>
</tr>
<tr>
<td><strong>FEV1 % predicted</strong></td>
<td>108.5 (2.53)</td>
<td>84.48 (4.29)**</td>
</tr>
<tr>
<td><strong>FVC (L)</strong></td>
<td>4.92 (0.35)</td>
<td>3.96 (0.25)*</td>
</tr>
<tr>
<td><strong>ICS (µg)</strong></td>
<td>0</td>
<td>962.66 (67.21)</td>
</tr>
<tr>
<td><strong>Receiving oral corticosteroids (no.)</strong></td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td><strong>PC20 (mg/ml)</strong></td>
<td>&gt;16</td>
<td>6.21 (1.70)</td>
</tr>
<tr>
<td><strong>IgE (IU/ml)</strong></td>
<td>NA</td>
<td>643.57 (270.14)</td>
</tr>
</tbody>
</table>

Subjects demographics and clinical characteristics (*immunohistochemistry studies*). Data are shown as means (SEMs). *P < 0.05, **<0.01 versus healthy control. 
FEV1 (forced expiratory volume in 1 second), FVC (forced vital capacity); ICS (inhaled corticosteroid); NA (Data not available), ICS, inhaled corticosteroids. PC20, provocative concentration of methacholine to induce a 20% reduction in the FEV1.