Figure 1

A

Unchallenged

<table>
<thead>
<tr>
<th></th>
<th>WT</th>
<th>WKO</th>
</tr>
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<tbody>
<tr>
<td>Der Ep</td>
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Der p 2

<table>
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</thead>
<tbody>
<tr>
<td>Der Ep</td>
<td></td>
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</tbody>
</table>

Epidermis thickness

B

Langerhans cells

C

CD11c+EpCAM

D

CD4+ T cells

E

CD11b+ CD11c+DCs

F

MHCII+ DEC205+ CD8+DCs
Figure 2

A. LN and Spleen: Effector/memory CD4+ T cells, CD8+ T cells, and CD4+/CD8+ T cell ratio in WT and WKO mice.

B. Effector/memory CD4+ T cells and Effector/memory CD8+ T cells in LN and Spleen of WT and WKO mice.

C. Flow cytometry graphs for IFNγ+ CD4+ T cells and IFNγ+ CD8+ T cells under no treatment, 4hr PMA+ionomycin, and 48hr Der p 2 conditions.

D. Similar graphs as in C but showing IFNγ+ CD4+ T cells and IFNγ+ CD8+ T cells.
Figure 5

A

B

C

D

E

F

G
Figure 6

A

B

C

D

E

pH 5-3

pHrodo-OVA

WT CD8-DCs

WKO CD8-DCs

CD8+ DC CD8- DC

OT1 proliferation
cell number

CD8+DCs

CD8-DCs

pH

CD8+DCs

pHrodo hi CD8+DCs

CD8-DCs

pHrodo hi CD8-DCs

pHrodo percent of max

6hr pHrodo hi CD8+DCs

6hr pHrodo hi CD8-DCs
Figure 7

A

Rac1 expression (CD8-DC)

Rac2 expression (CD8-DC)

Rac1 expression

Rac2 expression

B

WT

WKO

CD8+DC

CD8-DC

Rac1 Rac2

Rac2+ phagosomes

Rac intensity

C

Rac1/2-GTP

Rac2-GTP

D

ROS production CD8+DC

ROS production CD8-DC

CD8+ DC

ROS production CD8+DC

ROS production CD8-DC