

## Supplemental information

### Extended Data Figure legend

#### Extended Data Figure 1

**a**, Quantification of control aorta, AAA intima + media, and AAA adventitia of Arachidonic Acid-derived lipid mediators 5HETE, 15HETE, and 12HETE. **b**, Quantification of control aorta, AAA intima + media, and AAA adventitia of Arachidonic Acid-derived lipid mediators PGE<sub>2</sub>, 6K-PGF<sub>1A</sub>, TXB<sub>2</sub>, LTB<sub>4</sub>, LXA<sub>4</sub>, and LXB<sub>4</sub>. **c**, Quantification of control aorta, AAA intima + media, and AAA adventitia of Eicosapentaenoic Acid-derived lipid mediators 18-HEPE and 15-HEPE. **d**, Quantification of control aorta, AAA intima + media, and AAA adventitia of Eicosapentaenoic Acid-derived lipid mediators RVE1, RVE2, and RVE4. **e**, Quantification of control aorta, AAA intima + media, and AAA adventitia of Docosahexaenoic Acid-derived lipid mediators 14-HDOHE and 17-HDOHE. **f**, Quantification of control aorta, AAA intima + media, and AAA adventitia of Docosahexaenoic Acid-derived lipid mediators 7(R)-MAR1, MAR2, PDX, PD1, RVD1, RVD2, RVD5, RVD4, and RVD4. **g**, Heatmap of lipid mediators generated by 15-LO conversion.

#### Extended Data Figure 2.

**a**, Schematic representation of the experimental procedure that induces mouse AAA using intraluminal elastase injection. **b**, Representative images of mouse aorta exposed by midline laparotomy. 8.0 polypropylene wires were tied around the aorta to perform proximal and distal clamping. **c**, Representative images of mouse abdominal aorta perfused with saline solution (sham) or elastase. **d**, Aorta wall immunodetection of the lymphatic vessels in AAA. **e**, Quantification of lymphatic vessel area in AAA. Scale bars, 50  $\mu$ m (**d**).

#### Extended Data Figure 3.

**a**, Schematic representation of the experimental procedure that induces mouse AAA using elastase-containing sponge. **b**, Representative images of Hematoxylin-Eosin (H&E) staining. **c**, Representative images of Red Sirius staining. **d**, Representative images of Masson's trichrome staining. **e**, Aorta wall immunodetection of the lymphatic vessels in AAA. **f**, Quantification of lymphatic vessel density in AAA. Scale bars, 50  $\mu$ m (**b-e**).

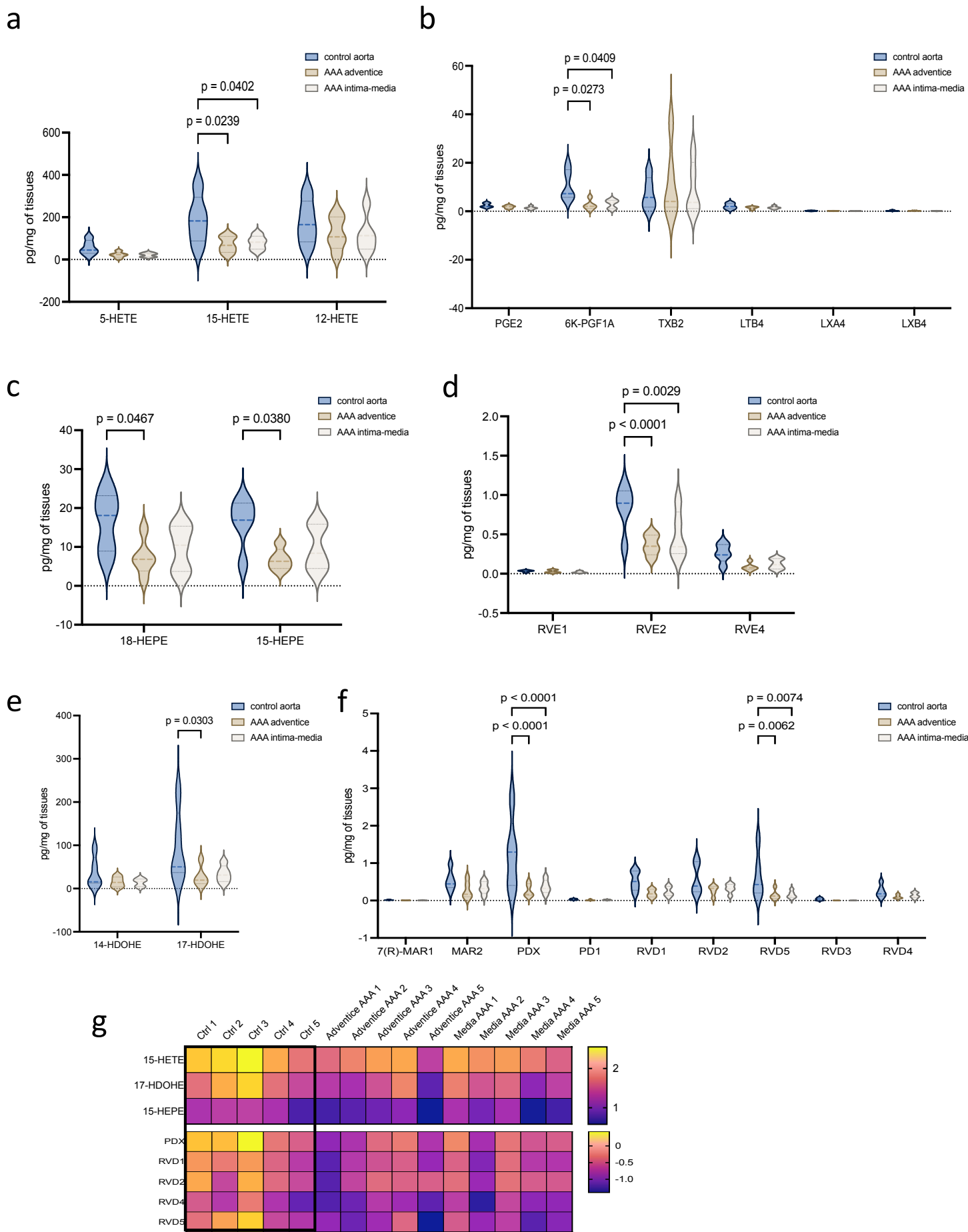
#### **Extended Data Figure 4**

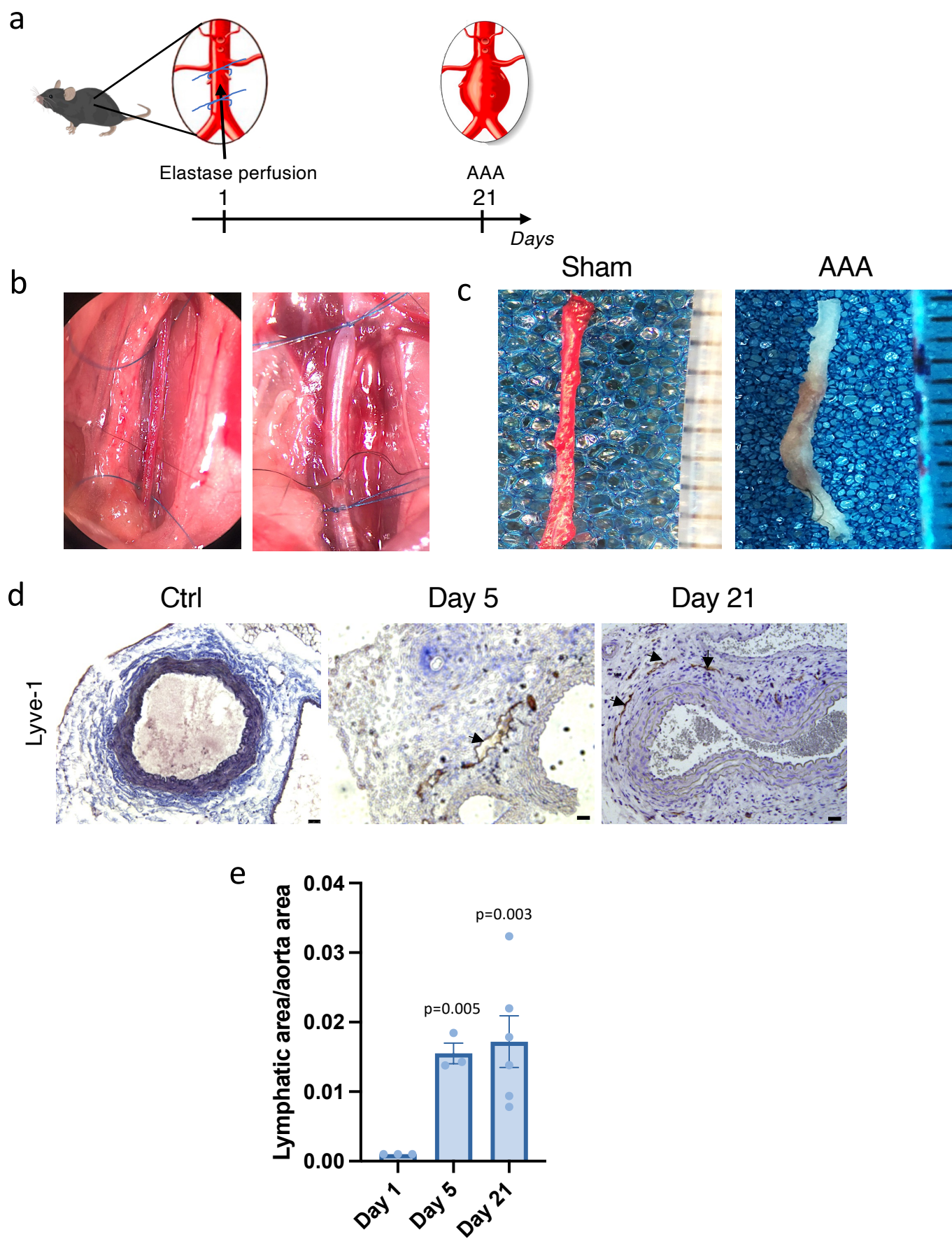
Percentage of blood circulating neutrophil (**a**) and lymphocyte (**b**) in control (sham) and AAA mice injected with 15LO lentivector.

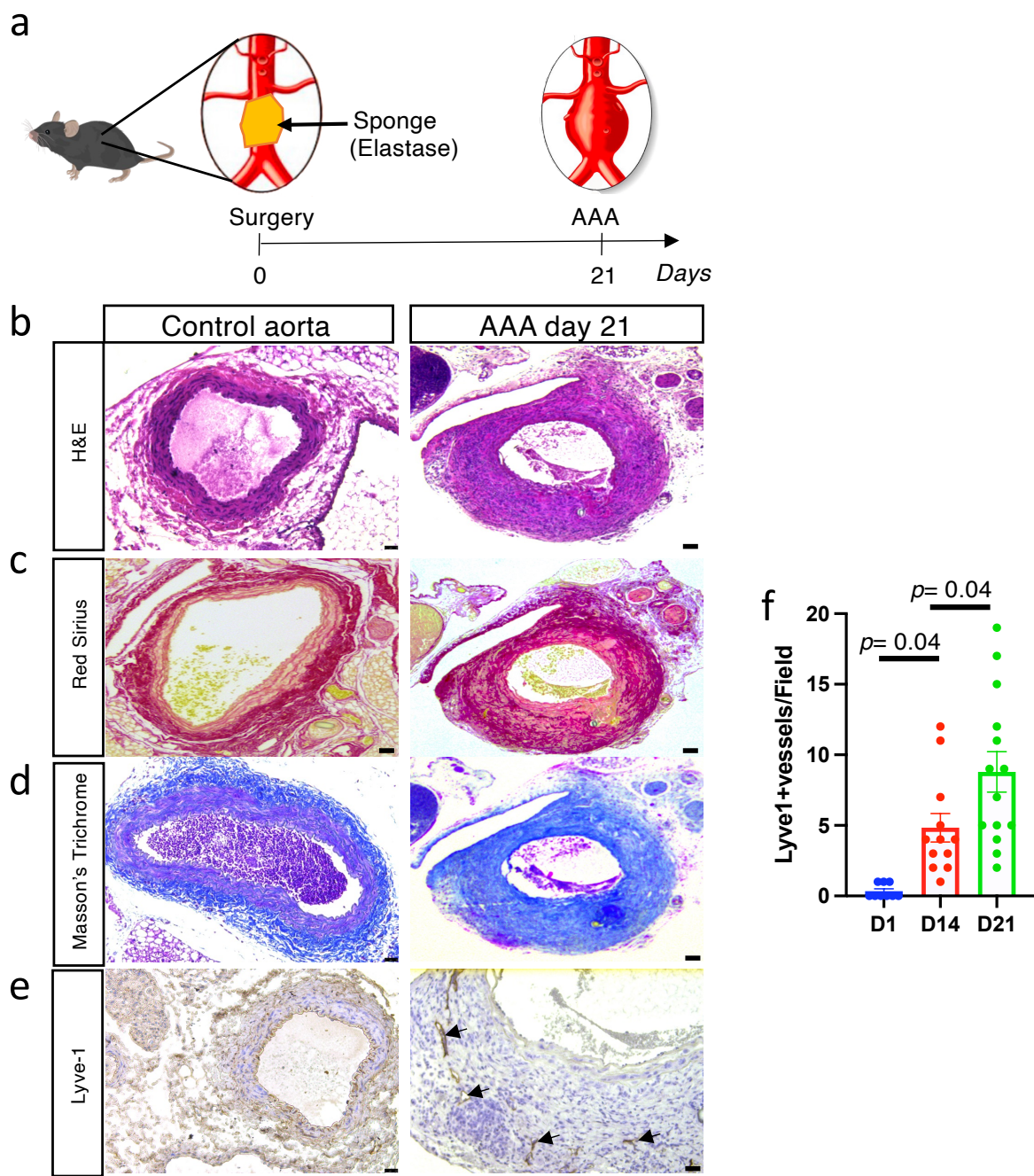
#### **Extended Data Figure 5**

**a**, Aorta wall immunodetection of KI67-positive eosinophils in AAA from Alox15<sup>lecKO</sup> mice and control littermates (Cre-) injected with 15LO lentivector. **b**, Quantification of KI67+ eosinophil cells density. Scale bars, 10  $\mu$ m (**d**).

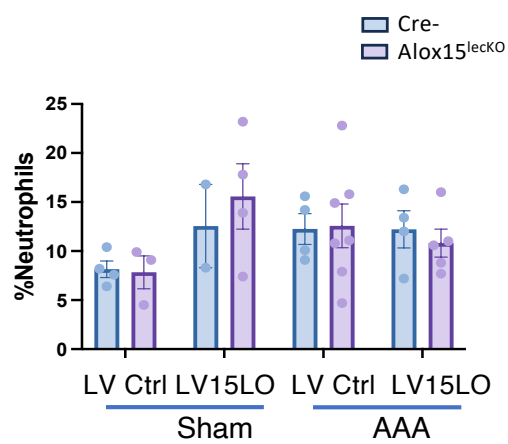
Extended Data Figure 1







a



b

