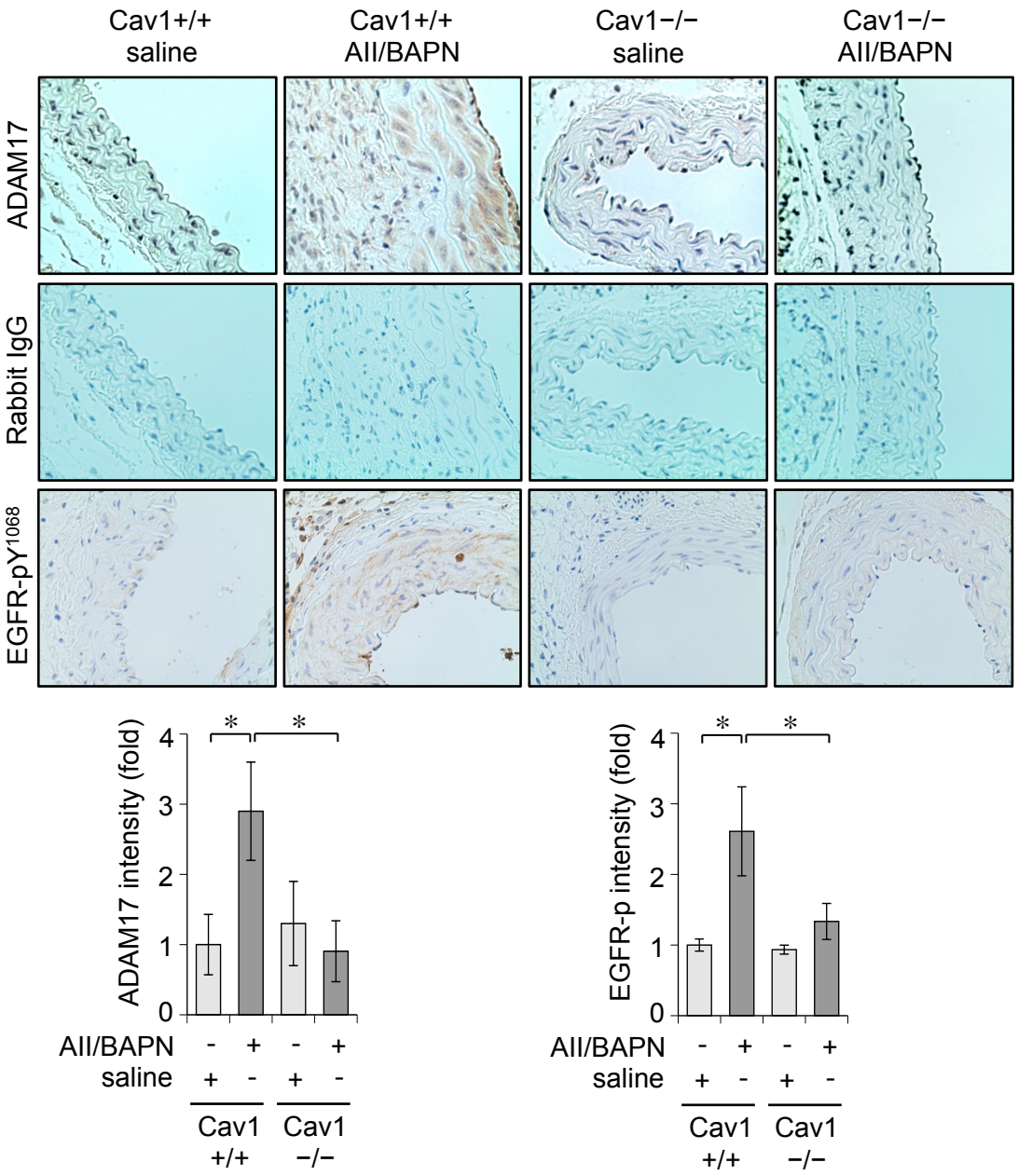
Supplementary Table 1. Classification of AAA

Cav1	n	none	I	II	III	IV
+/+	10	0	1	1	5	3
-/-	10	9	1	0	0	0

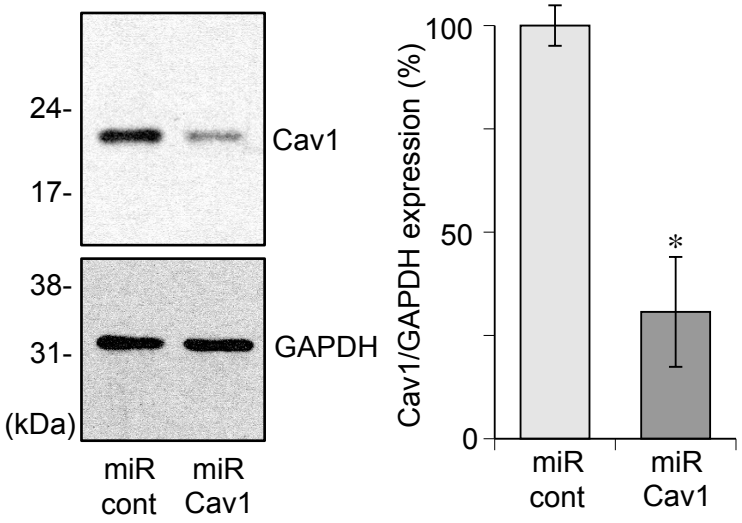
8 week old Cav1-/- mice and the control Cav1+/+ (C57Bl/6) mice were infused with Ang II (1 μg/kg/min for 4 weeks) and BAPN (150 mg/kg/day for the first 2 weeks).



Supplemental Figure A

Aortic ADAM17 induction by Ang II was prevented in Cav1-/- mice

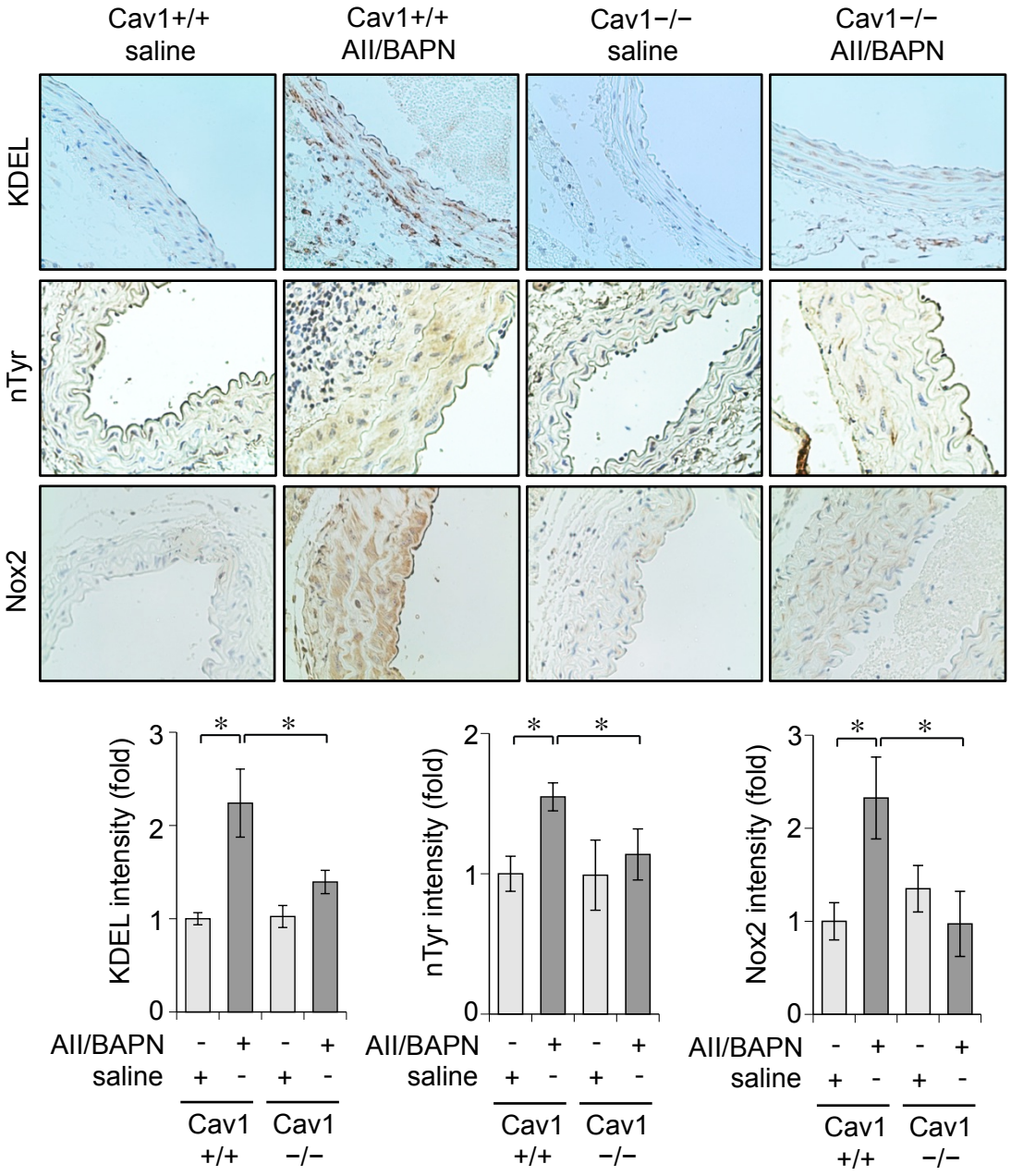
8 week old Cav1-/- mice and the control Cav1+/+ (C57Bl/6) mice were infused with Ang II+BAPN or saline for 4 weeks as in Fig 1. Abdominal aortae were immuno-stained with antibodies or equal concentrations of the control IgG as indicated (n=4, 200x). Specific staining intensity at medial area was quantified with subtraction of control IgG staining intensity of the corresponding area (means ± SEM, * $p<0.05$).



Supplemental Figure B

Cav1 silencing by Cav1 siRNA embedded miRNA

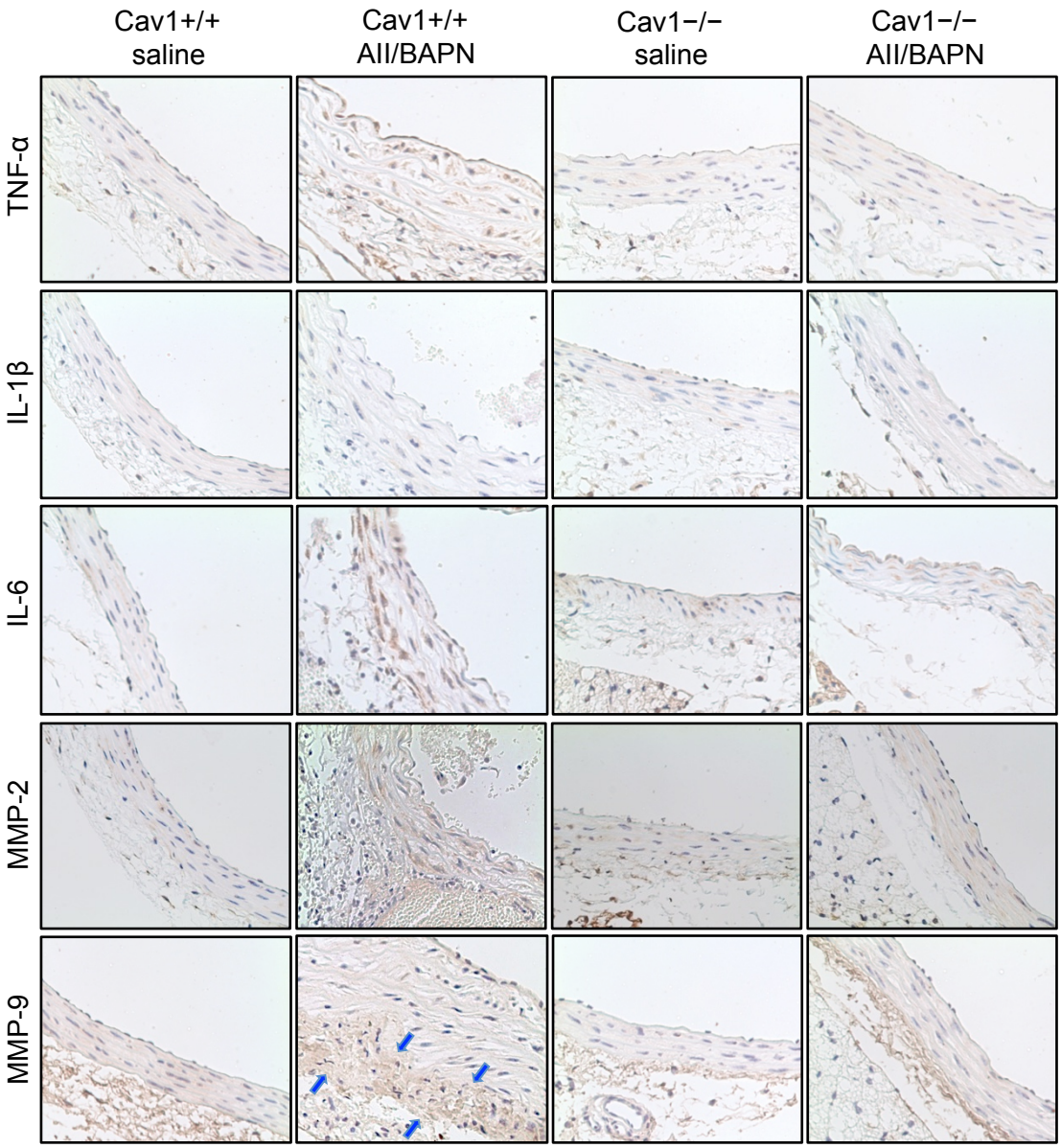
Rat VSMC were infected with adenoviruses (100 moi) encoding mi/siRNA targeting rat Cav1 or non-targeting control miRNA (100 moi) for 72 h. The cell lysates were analyzed by immunoblotting as indicated (means ± SEM, n=4). *p<0.05.



Supplemental Figure C

Aortic ER stress and oxidative stress were attenuated in Cav1-/- mice with Ang II plus BAPN infusion

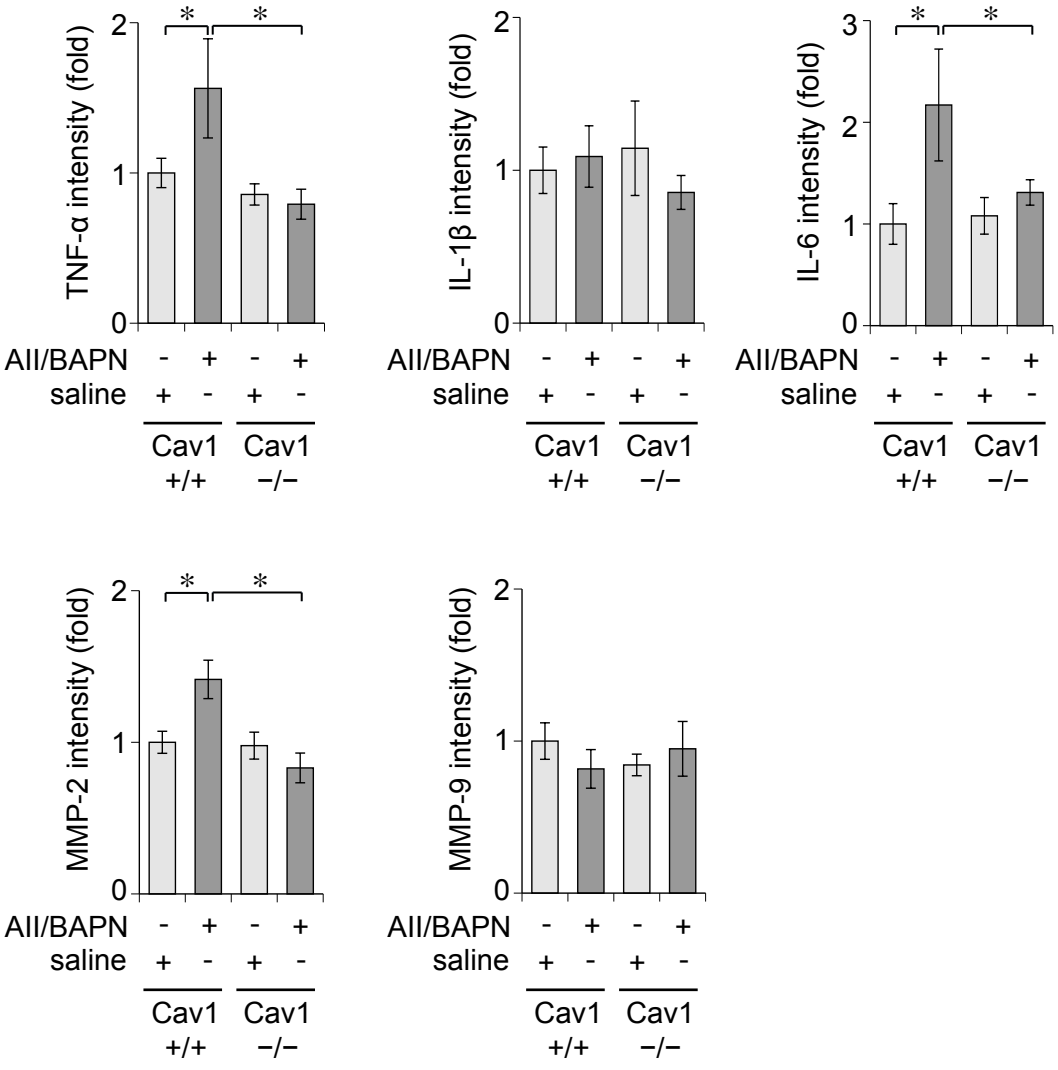
8 week old Cav1-/- mice and the control Cav1+/+ (C57Bl/6) mice were infused with Ang II+BAPN or saline for 4 weeks as in Fig 1. Abdominal aortae were immuno-stained with antibodies as indicated (n=4). Nitro-tyrosine antibody (nTyr) and KDEL antibody were used to assess oxidative stress and ER stress, respectively (200x). Specific staining intensity at medial area was quantified with subtraction of control IgG staining intensity of the corresponding area (means ± SEM, * $p<0.05$).



Supplemental Figure D-1

Aortic inflammatory responses and MMP induction were attenuated in Cav1-/- mice with Ang II plus BAPN infusion

8 week old Cav1-/- mice and the control Cav1+/+ (C57Bl/6) mice were infused with Ang II+BAPN or saline for 4 weeks as in Fig 1. Abdominal aortae were immuno-stained with antibodies as indicated (n=3). Nitro-tyrosine antibody (nTyr) and KDEL antibody were used to assess oxidative stress and ER stress, respectively (200x). Arrows indicate enhanced MMP-9 staining at adventitia.



Supplemental Figure D-2

Specific staining intensity at medial area in Supplemental Figure D-1 was quantified with subtraction of control IgG staining intensity of the corresponding area (means ± SEM, * $p<0.05$).