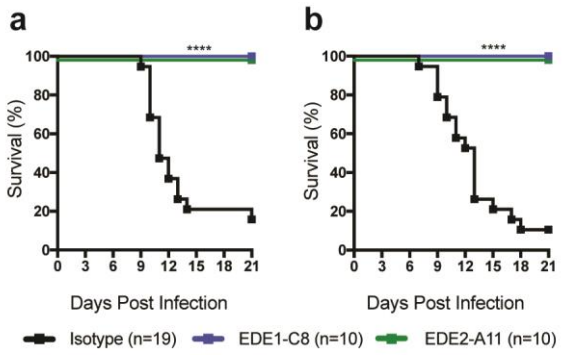
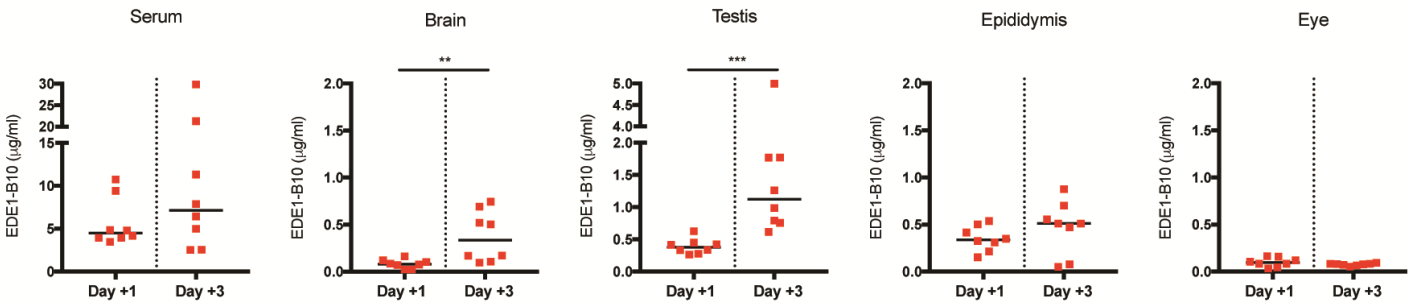


Supplementary Figure 1

EDE-specific mAbs protect against ZIKV-induced lethality.

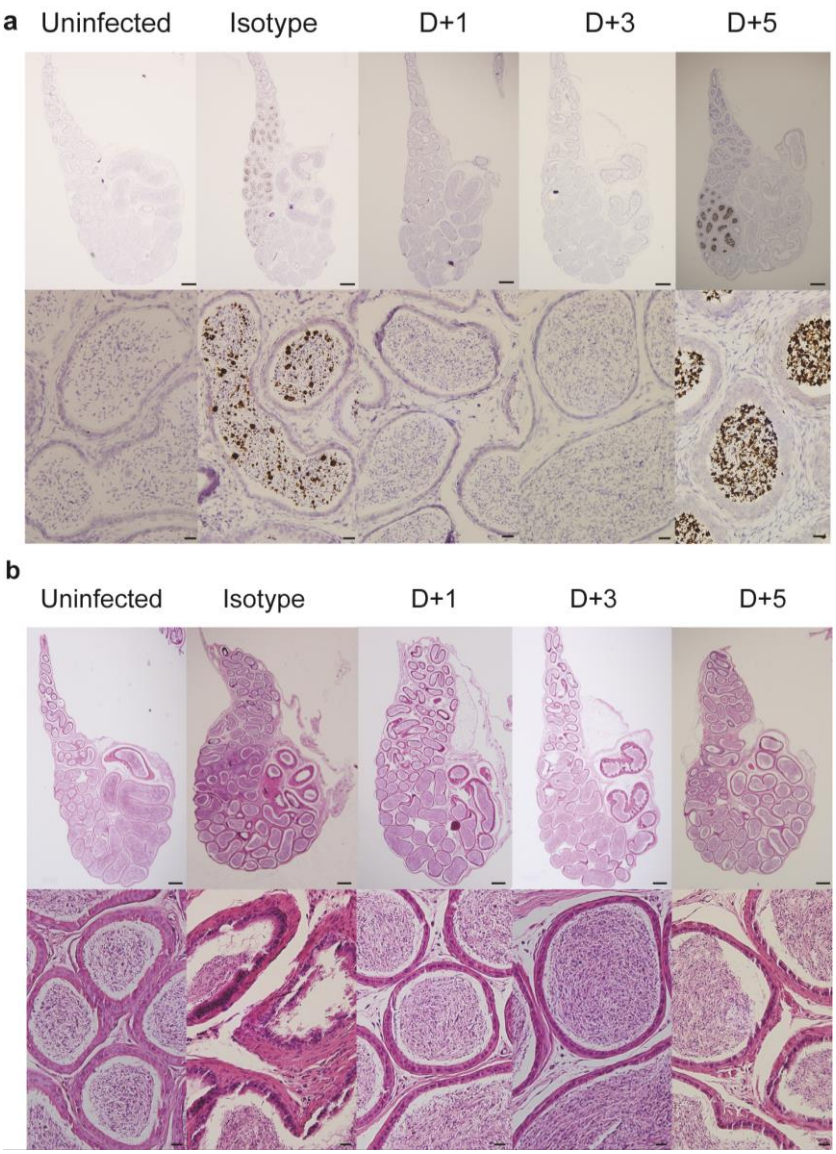
Four to five week-old WT male mice were treated with anti-Ifnar1 mAb followed by subcutaneous infection with 10^3 FFU of mouse-adapted ZIKV-Dakar. Mice then were treated with isotype-control, EDE1-C8, or EDE2-A11 mAbs at day +1 (100 μg, left) or day +3 (250 μg, right). Data were pooled from two (isotype-control mAb) or three (EDE1-C8 and EDE2-A11) independent experiments (isotype-control mAb, n = 19; EDE1-C8, n = 10; EDE2-A11, n = 10). Statistical significance was analyzed (log-rank test: ****, $P < 0.0001$).



Supplementary Figure 2

Levels of EDE1-B10 mAb in tissues at day +5 after infection.

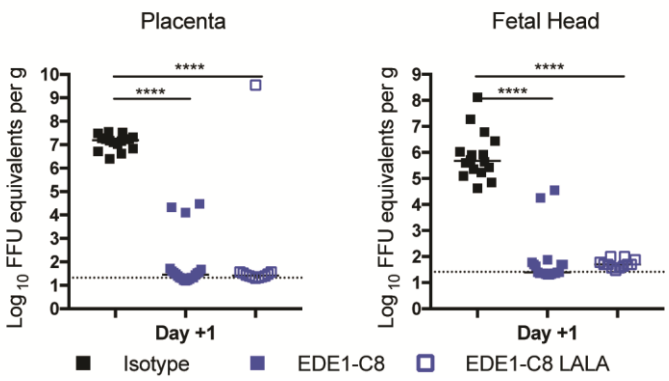
Eight to nine week old WT male mice were treated with a single dose of EDE1-B10 mAb at day +1 or +3 as described in **Fig 2**. **a.** At D+5, tissues were harvested and EDE1-B10 levels were assessed by ELISA using a standard curve. Bars indicate median values. Data were pooled from two independent experiments, and symbols correspond to individual mice (n = 8 per group). Statistical analysis was determined (Mann-Whitney test: **, $P < 0.01$; ***, $P < 0.001$)



Supplementary Figure 3

ISH and histological analysis of epididymis from mice treated with EDE1-B10.

Eight- to nine- week old male WT mice were treated with isotype control or EDE1-B10 mAb at day +1 (n=6 mice), day +3 (n=4 mice), day +5 (n=8 mice) after infection, as described in **Figure 2. a.** RNA *in situ* hybridization (ISH) staining of epididymis at day +21 using ZIKV-specific RNA probes. Low power (scale bar = 500 μm) and high power (scale bar = 20 μm) images are presented in sequence. The images in the panels are representative of sections from 4 to 6 mice. **b**. H & E staining of epididymis. Low power (scale bar = 500 μm) and high power (scale bar = 20 μm) images are shown in sequence. The images are representative of sections from 3 to 5 mice.



Supplementary Figure 4

Protection of pregnant mice with WT and LALA EDE1-C8 mAbs.

WT female mice were mated with WT sires. At E5.5, dams were treated with anti-Ifnar1 mAb. At E6.5, dams were infected subcutaneously with 10^3 FFU of mouse-adapted ZIKV-Dakar. At E7.5 (day +1), dams were treated with 250 µg of either isotype-control mAb or EDE1-C8 (wild-type or LALA variant). At E13.5, placentas and fetal heads were harvested, and viral RNA was assessed by qRT-PCR. Bars indicate median values. Data were pooled from two independent experiments, and symbols correspond to individual mice (isotype mAb, n = 16; EDE1-C8, n = 20; EDE1-C8 LALA, n = 12). Statistical significance was determined (Kruskal-Wallis test: ***, $P < 0.001$; ****, $P < 0.0001$). Dashed line indicates the limit of detection for the assay.