

## Lesions and cellular tropism of natural Rift Valley fever virus infection in adult sheep

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### Supplemental Table S1. Description of liver histopathology scoring in sheep naturally infected with RVFV

| Score    | Description   |
|----------|---|
| None     | No evidence of hepatocellular death, inflammation or hemorrhage.  |
| Mild     | One third or less of the examined parenchyma affected. Foci of hepatocellular death are associated with a mild to moderate infiltrate of predominantly neutrophils with fewer macrophages. Hemorrhage often present in areas of cell death. |
| Moderate | Areas of hepatocellular death in between 1/3 and 2/3 of the examined parenchyma. Hemorrhage and an inflammatory infiltrate as described above.  |
| Severe   | Areas of hepatocellular death in more than 2/3 of the examined parenchyma, with hemorrhage and an inflammatory infiltrate as described above.   |

### Supplemental Table S2. Description of spleen histopathology scoring in sheep naturally infected with RVFV

| Score    | Description  |
|----------|--|
| None     | No appreciable lymphocyte necrosis or depletion.   |
| Mild     | Necrosis present in the germinal center of the follicles. Sparing of lymphocytes in the mantle zone, marginal zone and the periarteriolar lymphoid sheaths (PALS), with many small to medium lymphocytes remaining in these areas. Scattered tingible-body macrophages present in the white pulp mostly in the germinal centers and marginal zone. No or sparse lymphocytolysis in the red pulp.   |
| Moderate | Necrosis present in the germinal center of the follicles. Mild to moderate depletion of the mantle zone accompanied by scattered lymphocytolysis in the marginal zone and the peripheral zone of the PALS. In some cases, the mantle zone is no longer discernible. Sparing of lymphocytes in the PALS adjacent to the central artery of the white pulp. Tingible-body macrophages especially prominent in the marginal zone. Occasionally mild to moderate lymphocytolysis in the red pulp. |
| Severe   | Necrosis present in the germinal center with disintegration of the mantle zone. Broad zone of necrosis present in the marginal zone and in the peripheral zone of the PALS with the PALS in most cases reduced to a narrow band of small to medium lymphocytes adjacent to the tunica media of the central artery. Many tingible-body macrophages present in the remains of the germinal centers and the marginal zone. Mild to moderate lymphocytolysis in the red pulp.                    |

### Supplemental Table S3. Description of renal histopathology scoring in sheep naturally infected with RVFV

| Score    | Description   |
|----------|---|
| None     | No lesions attributable to acute tubular or glomerular injury detected.   |
| Mild     | Scattered or aggregates of degenerating or necrotic tubules in only a few ( $\leq 5$ out of 10) low power fields (10x objective) examined. Lesions in necrotic tubules are characterized by tubular epithelial cell pyknosis, karyorrhexis, and karyolysis accompanied by intratubular cellular and proteinaceous debris and detachment of the epithelium from the basement membrane. Round desquamated cells with homogenous eosinophilic cytoplasm sometimes present within the lumens of a tubules, particularly in the superficial cortex and medullary rays. Intermittently, tubules are lined by attenuated epithelial cells, causing the tubular lumens to appear dilated. Scattered pyknosis and karyorrhexis present in the glomeruli with occasional attendant neutrophils. |
| Moderate | Scattered or aggregates of degenerating or necrotic tubules in most ( $> 5$ out of 10) low power fields (10x objective) examined. Characteristics of tubular and glomerular injury as described above. Occasionally granular or cellular casts present within the tubules.  |
| Severe   | Acute tubular injury or necrosis in most of the tubules with characteristics as described above in all of the low power fields (10x objective) examined.  |