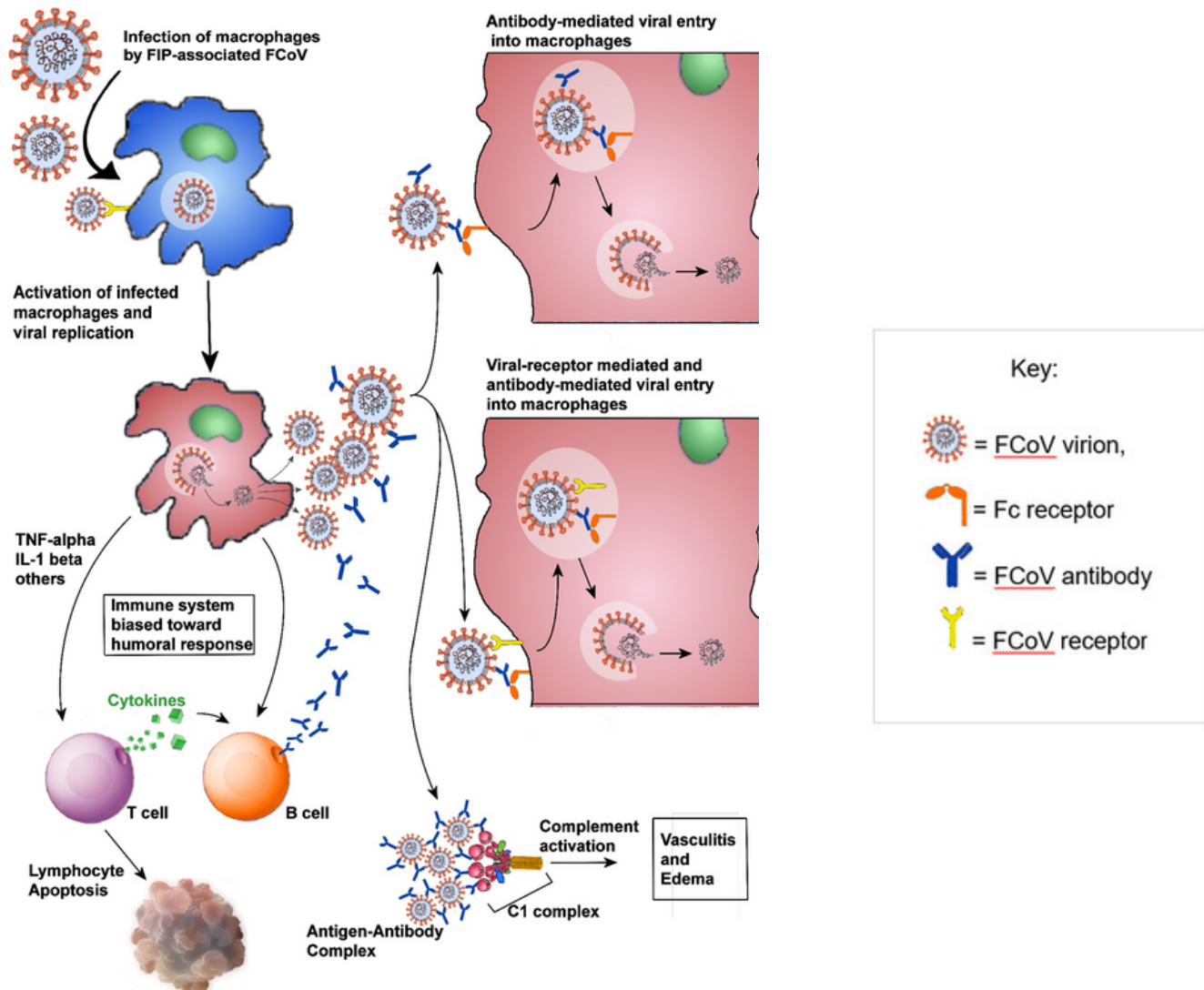


AAFP/EveryCat Feline Infectious Peritonitis Diagnosis Guidelines

Macrophage Activation, Complement Activation and Antibody-mediated Viral Infection of Macrophages



SUPPLEMENTAL FIGURE 5b: Macrophage Activation, Complement Activation and Antibody-mediated Viral Infection of Macrophages

FCoV attaches to a macrophage via a receptor. The macrophage engulfs the virus in a vacuole via endocytosis. Structural rearrangement of the viral coat protein allows the virus to bind to the vacuole membrane and release its capsid and genome into the cytoplasm. The host and virus cellular replication machinery replicate and package newly formed virions ready for release and infection of other macrophages. Infected macrophages trigger an immune response, which includes T cell recruitment that release pro-inflammatory cytokines and B cells that generate FCoV-specific antibodies. Cytokine signaling leads to lymphocyte apoptosis and lymphopenia. Depending on host and viral factors, the immune system triggers either a robust cell-mediated response and the infection can be cleared, or it is biased toward a humoral response, whereby FIP develops. Neutralizing and non-neutralizing (or sub-neutralizing) antibodies are produced, and non-neutralizing antibodies can mediate further infection of macrophages via Fc receptor or Fc receptor + FCoV receptor-mediated attachment. Antigen-antibody complexes are activated, leading to vasculitis and edema (1-8).

For more information, visit catvets.com/fip & everycat.org/aafp-fip-guidelines.

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Macrophage Activation, Complement Activation and Antibody-mediated Viral Infection of Macrophages (continued)



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