Modulation of lentivirus replication by antibodies. Non-neutralizing antibodies to caprine arthritis-encephalitis virus enhance early stages of infection in macrophages, but do not cause increased production of virions.

Abstract
Non-neutralizing antibodies to caprine arthritis-encephalitis virus (CAEV) enhance the early stages of the virus life cycle but do not potentiate enhanced production of virus particles by macrophages. In primary macrophages used for these studies, there was enhancement in binding, internalization and uncoating of virus pretreated with non-neutralizing sera in comparison to virus pretreated with a non-immune serum. However, this did not lead to enhanced production of virus particles. Failure of non-neutralizing sera to inactivate CAEV may be due in part to low avidity of the antibodies for the virus particles which contain sialic acids on their envelopes, because desialylation of the particles made them neutralizable. The non-neutralizing antibodies probably bound to most of the native virus particles which were then internalized via Fc receptor-mediated endocytosis and degraded. Sialylated particles that failed to bind antibodies probably caused the infection. Thus there was no true enhancement of infection. The previously reported increase in severity of lesions in animals immunized with inactivated CAEV particles prior to challenge with live virus suggested enhancement of infection but in the light of our finding this may have been caused by factors other than an increase in production in the number of infectious virus particles.
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