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Luminex-based multiplex assay for the detection of antibodies against different henipaviruses and other relevant agents in pigs

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Ghana virus (GhV) is a paramyxovirus within the genus Henipavirus with unknown zoonotic potential, which is closely related to the BSL4 agents Hendra (HeV) and Nipah virus (NiV), that have been reported to cause deadly infection in horses, pigs and humans in Australia and South-East Asia. Ghana virus was first identified in a spleen sample of the species *Eidolon helvum* in Kumasi, Ghana. So far, all attempts to isolate the virus from tissue samples or to rescue a recombinant GhV were unsuccessful.

Based on the serological cross-reactivity between henipaviruses circulating in Africa and the Australasian region by using serological assays based on HeV and NiV glycoprotein G, henipavirus specific antibodies have been detected in fruit bats, pigs, horses and humans in a number of Sub-Saharan African countries recently.

We therefore developed a Luminex technology based multiplex immunoassay to detect antibodies against the above mentioned henipavirus G proteins, HeV, NiV and GhV G. This assay is based on antigen-coated magnetic beads in a fluid system to test against several agents in a multiplex format. Validation of the assay is currently being performed on pig samples from Sierra Leone. This assay will then be expanded by adding the antigens of other relevant viruses, i.e. Ebola virus. This improves the diagnostic capability for henipaviruses and other disease agents in field samples from Cameroon.