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The adjuvant used in the present poster is the one used for classic vaccines, i.e. containing monoolein and oleic acid.

Optimization of mucosal immunization protocols based on HIV-1 virus-like particles

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Aim: To evaluate and compare the immune response induced in a mouse model by an anti-HIV-1 vaccine based on HIV-1 Virus-Like Particles, expressing a gpl20 from an Ugandan HIV-1 isolate of the clade A (HIV-VLP$_A$), injected by different administration routes alone or within DNA/VLP prime-boost protocols.
Results: Specific cellular immunity along with a systemic and mucosal IgG and/or IgA response are observed in mice immunized with HIV-VLP$_A$s by the i.p. as well as the i.n. administration routes. The induced antibodies show an ex vivo neutralizing activity on both autologous and heterologous field isolates. Different DNA/HIV-VLP prime-boost doses and schedules have been tested by i.n. immunization, show- ing additivelsynergistic effects on humoral as well as cellular responses. The HIV-VLP$_A$ formulated in a novel mucosal adjuvant can be used at l/10th of the original dose, without loss of immunogenicity.
Conclusions: The induction of an efficient mucosal response is of high relevance given that gastrointestinal and vaginal sites are the main port of entry for the HIV-1 infection. The DNA/VLP prime/boost immunization strategy shows an effective synergistic immunization effect. Moreover specific mucosal adjuvants allow to sensibly lowering the immunization dose, with a reduction of possible in vivo side effects. The observed ex vivo cross-clade neutralization of primary field isolates is promising for the containment in vivo of a broad spectrum of HIV-1 subtypes in animals immunized with the HIV-VLP$_A$s.