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Advances in Antibody Based HIV-1 Vaccine Development

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Message from the Guest Editors

Dear Colleagues,

Intensive collaborative work in the last decade resulted in the isolation of antibodies from a subset of HIV-positive patients, that can potently neutralize a broad spectrum of primary HIV-1 isolates in vitro and protect from infection in animal models, advancing these broadly neutralizing antibodies (bnAbs) to clinical trials in recent years. In parallel, detailed structural characterizations of bnAbs in complex with HIV-1 envelope proteins (Env) gave insights into particular features of these antibodies and their epitopes. Unfortunately, HIV-1 Env immunogens derived from this knowledge were not able to date to induce bnAbs upon vaccination of humans or non-human primates. However, they can do so in certain species like camelids or cows, which naturally generate antibodies with special characteristics of bnAbs. Detailed immunological studies are being performed to understand the generation of bnAbs in patients with the aim to recapitulate the underlying mechanisms in vaccination approaches.









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Message from the Editor-in-Chief

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