36th Euro Global Summit and Expo on **Vaccines & Vaccination**

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The future of nucleic acid vaccines and non-viral delivery systems

Currently, there are a number of vaccine types on the market, including live-attenuated, killed, recombinant and subunit vaccines. Each of these vaccine types come with disadvantages such as safety, need of an adjuvant and the need of a cold chain. In order to overcome these shortcomings, nucleic acid vaccines, mRNA and DNA based, are gaining in popularity and starting to populate the pre-clinical and clinical pipelines. Advantages of these types of vaccines are the potential to trigger both the cellular and humoral immune response and a more efficient manufacturing process. Despite the progress that have been made in the last years with regards to nucleic acid vaccines, *in vivo* stability remains an issue and a delivery system may be needed. This keynote lecture will start off with a status quo of nucleic acids and then expand into the delivery systems, and in specific, non-viral delivery systems such as lipid nanocarriers. The pros and cons of these vaccines and delivery systems will be presented and discussed, ending with a preview of the future of vaccines.

Biography

As a trained immunologist and virologist, Melody Sauerborn entered the fascinating world of biologics during her PhD. She focused on investigating why biologics induce the formation of anti-drug antibodies. After obtaining her PhD, Dr. Sauerborn established herself in the areas of bioanalysis and immunogenicity by spending numerous years in CROs and biotech companies. She worked predominantly on developing and validating ligand-binding and cell-based assays for PK/Tox and immunogenicity studies for biologics, biosimilars and vaccines. During her role as the head of non-clinical development at Mymetics, a viral vaccine company, she also extended and added to her expertise the production of biologics, vaccines and ATMPs and the aspects of potency assays and GMP. Currently Dr. Sauerborn focuses as a freelance on projects including (non-) clinical immunogenicity assessment, PK/PD assays, production of vaccines and biologics and teaching bioanalytical method validation workshops across Europe (and sometimes beyond).

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