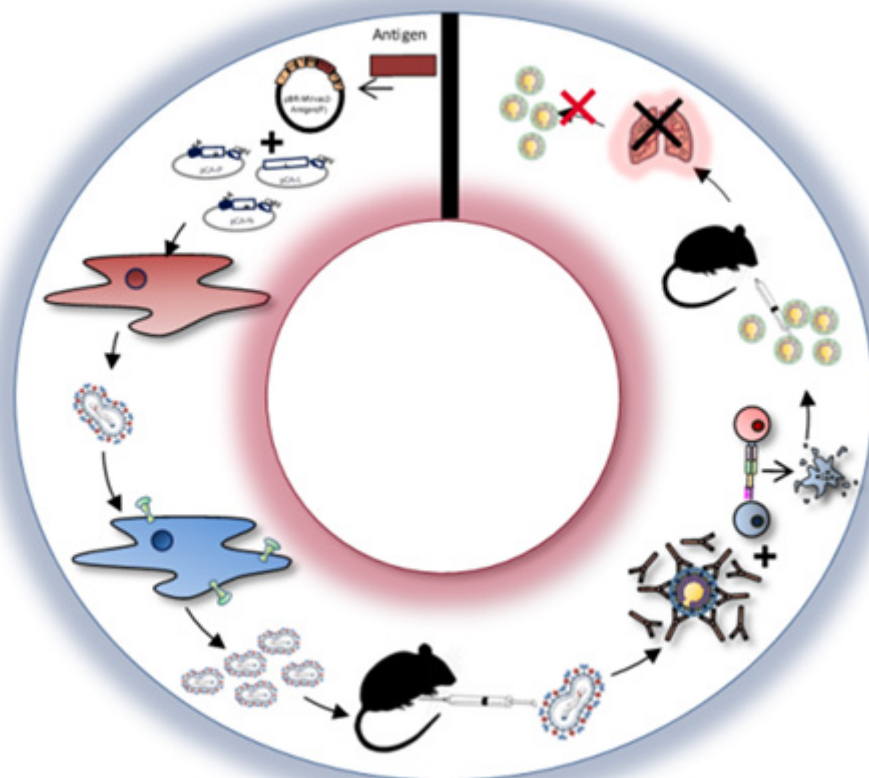


## Recombinant measles virus vaccines

Viral vectors are an attractive tool to present immunogens to the host immune systems and to simultaneously deliver adjuvant stimuli. Among them, attenuated measles virus is a potent live virus vaccine with a well-established safety record in humans. To generate multivalent prophylactic or therapeutic vaccines, the viruses are genetically modified by inserting the genetic information for antigens of interest into the viral genomes. Measles virus is being developed for vaccinations with a special focus against emerging infections such as the middle east respiratory syndrome coronavirus (MERS-CoV), or, more recently, the causative agent of COVID-19, SARS-CoV-2. The efficacy of these vaccine is demonstrated by analysis of humoral and cellular immune responses in vaccinated animals and finally by protection or analysis of side-effects in challenge experiments. Furthermore, different parameters of the vaccine technology such as the influence of different antigen formats (e.g. membrane bound or soluble), antigen expression levels, correlates of protection, and pre-existing immunity against the measles vector platform on protective immune responses are assessed using these vaccine candidates.



Schematic depiction of generation, rescue, and characterization of immunogenicity and efficacy of measles virus-derived recombinant vaccine vectors, which encode and present (a) critical antigen(s) of another pathogen, thereby being useful as a vaccine platform. Source: Anna H. Fiedler / PEI

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