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## Characterization and immunogenicity in mice of recombinant influenza haemagglutinins produced in *Leishmania tarentolae*

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The membrane displayed antigens haemagglutinin (HA) from several influenza strains were expressed in the *Leishmania tarentolae* (Jena Bioscience) system. This non-conventional expression system based on a parasite of lizard can be readily propagated to high cell density (>108 cells/ml), in a simple incubator at 26°C. The HA encoding genes from six influenza strains were cloned, among these being the A/H1N1 from swine origin. Soluble HAs were secreted into the supernatant, easily and successfully purified via a His-Tag domain fused to the proteins. The overall process could be conducted in less than 3 months and resulted in a yield of approximately 1.5 to 5 mg of HA per liter of biofermenter culture after purification. The HAs expressed by *L. tarentolae* was characterized by Dynamic Light Scattering and found mostly monomeric. However these recombinant antigens have proven to be immunogenic in mice at a dose of 10 µg when administered twice with an oil-in-water emulsion-based adjuvant. These promising results are paving the way towards a recombinant alternative to the current egg-based vaccine production.

### Biography

Isabelle Legastelois received her PhD degree from Lyon I university, France. She joined Sanofi Pasteur in June 1999. She is presently a Research unit head in the Research and Non Clinical Safety department of Sanofi Pasteur, France. Her main activities are the development and improvement of influenza and rabies vaccines, assessment of different expression systems for the production of viral antigens and development of new techniques to quantify viral antigens. Prior to her present position, she worked in public-sector laboratories on HIV and visna-maedi lentiviruses.

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