

From a pathogen's genome to an effective vaccine: The four-component meningococcal serogroup b vaccine Del genoma de un patógeno a una vacuna efectiva: La vacuna de cuatro componentes frente a los meningococos del serogrupo b

Abad, Raquel

Martinón-Torres, Federico

Santolaya, Maria Elena

Banzhoff, Angelika

González-Inchausti, Carmen

Graña, Maria Gabriela

Vázquez, Julio A.

© 2019, Sociedad Española de Quimioterapia. All rights reserved. Invasive meningococcal disease (IMD), caused by the bacterium *Neisseria meningitidis*, entails significant mortality and morbidity. Disease incidence is highest in infants <1 year and young children globally. In Europe, *N. meningitidis* serogroup B is responsible for over 50% of overall IMD cases, whereas the majority of IMD cases in Latin America is caused either by serogroup B or C. The development of an effective vaccine against serogroup B has challenged the researchers for over half a century. Serogroup B capsular polysaccharide was an inappropriate vaccine antigen, and the success of outer membrane vesicle (OMV) vaccines was restricted to homologous bacterial strains. Reverse vaccinology led to the development of a 4-component meningococcal vaccine including three novel antigens, and OMVs (4CMenB). Each vaccine component has a different target. 4CMenB has been authorised based on its immunogenicity and safety data bec