Generation of monoclonal antibodies against 17?-hydroxyprogesterone for newborn screening of congenital adrenal hyperplasia

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© 2018 Elsevier B.V. Congenital adrenal hyperplasia (CAH) is an autosomal recessive disorder caused by the deficiency of one of the five enzymes involved in the biosynthesis of corticosteroids. The most common form of the disease is the lack of 21-hydroxylase which provokes an accumulation of high levels of 17?-hydroxyprogesterone (17-OHP), the main biochemical marker for illness detection. Given the significance of neonatal diagnosis for ensuring a timely treatment to patients suffering from CAH, newborn screening is worldwide performed for the determination of 17-OHP from dried blood spots on filter paper. The non-specificity of antisera employed in immunoassays and the cross-reaction with fetal adrenal hormones produce an overestimation in the 17-OHP quantification. Immunization of mice with 17-OHP-3-(O-carboxymethyl) oxime-bovine serum albumin led to the generation of 15 anti-17-OHP IgG1-and-IgG2b-secreting hybridomas. The 6E2G9 monoclonal antibody presents cross-reactivity values