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## Optimization of anti-cysticercosis S3Pvac vaccine and experiences on its extensive application in a taeniasis-cysticercosis control program

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*Taenia solium* cysticercosis is major parasitic disease of global proportions that poses very serious threats to human. Vaccination of pigs, the only intermediate host, could hinder the parasite transmission, thus reducing the human infection and improving pork quality. A first synthetic version of a vaccine (S3Pvac) constituted by three peptides (GK-1, KETc1, and KETc12; 18, 12 and 8 amino acids-long respectively) was developed and its efficacy to prevent porcine cysticercosis was demonstrated on the field. Later on, a second less expensive recombinant version of the vaccine expressed in filamentous phages was developed, field-tested, and proved to effectively prevent porcine cysticercosis. Notwithstanding its efficacy, the difficult logistics and high costs involved by parenteral vaccination of more than six-million free ranging, practically feral pigs in Mexico, perambulating in wide hostile areas of our diverse geography, are immense and render impractical the task. An oral vaccine, which could be administered by the pig owners, would deal successfully with these difficulties and become a serious candidate for regional or nationwide application. Thus, S3Pvac was expressed in papaya calli, an adequate system for oral immunization. Later on, we reported for the first time data supporting the usefulness of S3Pvac-papaya for oral immunization against *T. solium* porcine cysticercosis, using a cysticercosis experimental model in rabbits orally infected with *Taenia pisiformis* oncospheres. Currently, the efficacy of S3Pvac-papaya against porcine cysticercosis is being tested on the field.

### Biography

Edda Sciotto obtained her M.Sc. and Ph.D. at IIB, UNAM, Mexico. She is full-time researcher and professor at IIB, on the immunologic traits of human and porcine cysticercosis, and head researcher of several projects regarding vaccination against pig cysticercosis. Additionally, Dr. Sciotto has led coordinate projects with national and international faculties and universities. Dr. Sciotto has been conferred with several national awards and honors.