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30 September 2014 | News | By BioSpectrum Bureau

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Singapore: Australia-based vaccine research firm, Vaxine, is one of the seven recipients of research contracts by National Institute of Allergy and Infectious Diseases (NIAID), part of the National Institutes of Health, with funding of over $70 million over five years to discover and characterize new adjuvant.

"The goal of this research is to identify novel adjuvant candidates that safely and selectively boost vaccine-induced immune responses," said Dr Anthony S Fauci, director, NIAID. "Such adjuvants could be used to improve current vaccines, extend the vaccine supply or enhance vaccine efficacy in people with immature or weakened immune systems, such as infants and the elderly."

NIAID adjuvant discovery contracts awarded in 2003 and 2009 identified adjuvants that trigger a small set of receptors of the innate, or inborn, immune system. The innate immune response helps shape adaptive, or acquired, immunity, which confers long-term protection from infection by specific pathogens. The new NIAID awards aim to expand the scope of adjuvant research by searching for any compound involved in the activation of the adaptive immune system.

In the first stage of the research, scientists will use experimental and computer-based approaches to screen more than 1 million molecules and identify those capable of enhancing adaptive immune responses.

In the second stage, the investigators will determine how the most promising adjuvant candidates work. They will then use this knowledge to make structural changes to the molecules to improve their ability to safely enhance protective immune responses without causing undesirable side effects. Finally, scientists will test vaccines formulated with optimized adjuvant candidates for safety and efficacy in animal models.

"We expect that this research will expand the adjuvant pipeline and contribute to the development of new and improved vaccines against infectious diseases," said Dr Daniel Rotrosen, director, NIAID's Division of Allergy, Immunology and Transplantation, which oversees the awards.

"With this new round of awards, we have expanded the research scope of our program to compounds that indirectly and

directly stimulate adaptive immunity," he said.

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