# THE USE OF *IN SILICO* ANALYSIS TO ENGINEER THE BEST IMMUNOGENIC EPITOPE AND PRODUCE THE CORRESPONDING PROPHYLACTIC ANTIGEN-BASED VACCINES WITH C1 PRODUCTION PLATFORM IN ORDER TO RAPIDLY RESPOND TO VIRAL PANDEMICS

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Our approach to rapidly respond by producing prophylactic vaccines to emerging viruses that can globally spread and affect the lives of billion people is based on 2 main tiers:

(i) Selecting AA sequence which have been predicted to be a highly immunogenic epitope by analyzing the virus envelope proteins with computational algorithms.

(ii) Producing the antigens at high level and low costs with the C1 production cell line which is one of the most prominent production host for difficult to express proteins.

This approach was developed by the European ZAPI consortium (Zoonoses Anticipation and Preparedness Initiative) when 3 different antigen-based vaccines were selected against zoonotic viruses such as SBV, RVFV and MERS-CoV.

When the Covid-19 pandemic emerged, Dyadic used this approach to rapidly develop the RBD antigen with its proprietary C1 system to develop the DYAI-100 vaccine, against the SARS-CoV-2 virus.
The development work, the status of clinical study and new future approaches will be presented.