



Therapeutic and Diagnostic Applications of Structural Vaccinology

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Message from the Guest Editor

Structural vaccinology (SV) methods that combine high-resolution structural biology techniques with computational biology and immunological validation, can drive the design of better, protein-based vaccine components, endowed with improved biochemical and/or immunological properties.

Vaccine components can have secondary uses as serological diagnostic markers that detect their cognate antibodies, induced in subjects with prior exposure to the related pathogen. Presentation of diagnostic epitopes or whole antigens belonging to different infection stages and diseases can spur the design of Multiplex diagnostic tests, capable of rapidly detecting multiple diseases and infection progress. Recent advances in single particle cryo-electron microscopy and the ability to solve the structures of larger, more complex antigen structures will inevitably provide an increased repertoire of available antigen (and antigen-antibody) structures; therefore, examples of SV are likely to increase in the near future. In this context, this Special Issue summarizes the current applications of Structural Vaccinology to both the design of novel therapeutics (vaccines) and diagnostics.





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Message from the Editor-in-Chief

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