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Integrated design of antibodies for systems biology using AbDesigner

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In the current era of large-scale biology, systems biology has evolved as a powerful approach to identify complex interactions within biological systems. In addition to high throughput identification and quantification techniques, methods based on high-quality mono-specific antibodies remain an essential element of the approach. To assist the large-scale design and production of peptide-directed antibodies for systems biology studies, we developed a fully integrated online application, AbDesigner (http://helixweb.nih.gov/AbDesigner/), to help researchers select optimal peptide immunogens for antibody generation against relatively disordered regions of target proteins. Here we describe AbDesigner in terms of its features, comparing it to other software tools, and the applications of it to design various antibodies.

Biography

Pisitkun Trairak is currently working as Principal Investigator, Chulalongkorn University Systems Biology (CUSB) Center, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand. He has successfully completed his Administrative responsibilities as Senior Scientist, InterPrET Research Center, Department of Biomedicine, Aarhus University, Denmark. His research has included Systems Biology, Computer Software and Web Application Development. Based on this research and fellowship training, he has received several awards and honors, such as Outstanding Mentorship Award, National Heart, Lung, and Blood Institute, National Institutes of Health.

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