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Discovery of a small molecule inhibitor of Burton's Tyrosine Kinase (BTK) for autoimmune diseases

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Takeda California utilized a structure based drug discovery approach to identify novel small molecule inhibitor of BTK. This talk will highlight the potential for the BTK small molecule inhibitor to control B cell and Fc receptor mediated immune pathology. Compound 9, the lead candidate was evaluated in vitro for its effect on B cell receptor (BCR) and Fc receptor mediated cellular function. Further compound 9 was tested for in vivo therapeutic effects in the rodent models of CIA and in the anti-GBM induced kidney damage model. These studies revealed that BTK is a viable target for identifying novel approaches to treat several autoimmune diseases that are mediated with B cell and Fc receptor diseases including rheumatoid arthritis and immune complex mediated kidney damage.

Biography

Loui Madakamutil has completed his PhD from Mumbai University and Postdoctoral studies from La Jolla Institute for Allergy and Immunology, San Diego. He is the Director and site head of Immunology Drug Discovery Unit Takeda California. He is an immunologist with more than 14 years of expertise in all aspects of small molecule and biological drug discovery process from hit to lead and first in human studies.

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