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Title: Understanding the specificity of TSLP- TSLPR and TSLP-IL-7Rα interactions in a pro-inflammatory signalling complex mediated by TSLP

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Abstract:

It has been reported in previous experimental studies that binding of TSLP to TSLPR is a mechanistic prerequisite to recruit IL- $7R\alpha$ to form a highly stable ternary complex (TSLP- TSLPR-IL- $7R\alpha$) mediated by TSLP. Since TSLPR is a cognate receptor of TSLP, so it has high affinity to bind with TSLP. Binding of TSLP to TSLPR brings some conformational changes in TSLP, which enhance the binding tendency of IL- $7R\alpha$ with TSLP. Here to understand the specificity of the interactions of TSLP-TSLPR and TSLP-IL- $7R\alpha$ we simulate these two pairs and entire protein complex (TSLP-TSLPR-IL- $7R\alpha$) for 5ns. After this we carry out different type of analysis like Root mean square fluctuations, Root mean square deviation, Radius of gyration and Contact pairs analysis of residues.

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