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Predicted structural elements of Bcr-Abl oncoprotein isoforms in Chronic Myelogenous leukemia

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The structural elements of Bcr-Abl oncoprotein (p210^{BCR-ABL}) isoforms, b2a2 and b3a2, expressed in Chronic Myelogenous Leukemia (CML), were predicted by Psipred and ExPASy servers. These proteins are tyrosine kinases with masses of 210-kDa. Structural differences were found in five α -helices ($\alpha 25$, α' , $\alpha 26$, $\alpha 27$ and $\alpha 29$) and nine β -strands ($\beta 12$, $\beta 13$, $\beta 15$, β' , $\beta 17$, $\beta 30$, β'' , $\beta 34$ and $\beta 35$). These differences are present in the SH₃, SH₂, SH₁ and DNA-binding domains. The structural differences might be able to explain the different roles played by the two isoforms in mediating signal transduction during the development of CML.

Biography

Nadeem A Kizilbash received his Bachelor's degree in Chemistry from Longwood College in USA. His Master's degree was also in Chemistry from Washington University in St. Louis, USA. His doctoral degree was awarded in Biophysics from Boston University in USA. He is presently working as an Assistant Professor of Biochemistry at Northern Border University in Arar, Saudi Arabia. He has published fifteen papers in various journals on topics as diverse as Proteomics, Protein Structure, Drug Delivery and Gene Polymorphism. He is currently a member of editorial board of three international research journals.

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