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Analysis of biophysical studies of metal binding to zinc α2 glycoprotein (ZAG) using fluorescence

Zain Ullah and **Musa Kaleem Baloch**
Gomal University, Pakistan

Zinc-Alpha-2-Glycoprotein (ZAG) is present in blood, sweat, seminal fluid, breast cyst fluid, serum, saliva, cerebrospinal fluid, milk, urine, and amniotic fluid. As the protein's prominence may suggest, there are a range of metabolic functions associated with this protein including lipid lipolysis. ZAG functions in lipid lipolysis by binding fatty acids from triglycerides and decreasing levels of stored fats resulting in body fat loss. The function of ZAG under physiologic and cancerous conditions remains mysterious but is considered as a tumor biomarker for various carcinomas. ZAG was first isolated from human blood plasma via precipitation using 20 mM zinc acetate. It showed similar electrophoretic mobility to α1 immunoglobin and hence were named zinc alpha 2 glycoprotein. To my best of our knowledge, no studies have been directly examined to metal binding by ZAG. Preliminary studies in the McDermott laboratory suggest that ZAG is able to bind zinc. This study will examine binding of metals from the Irvine Williams series to ZAG using fluorescence.

Biography

Zain Ullah has completed his MPhil from Department of Chemistry, University of Kohat (KUST) and he is now a regular student of PhD in the Department of Chemistry, Gomal University. He has published 10 papers in international reputed journals.

zain_kust@yahoo.com

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