s1.m8.p30 **The zinc finger motif of E. coli RecQ helicase is required for DNA binding and whole protein integrity.** Jie Lin Liu, Pascal Rigolet and Xu Guang Xi, *Laboratoire de Biotechnologies et Pharmacologie Génétique Appliquée CNRS UMR 8113, Ecole Normale Supérieure (ENS) Cachan, 61 avenue du Président Wilson, 94235 Cachan cedex., France. E-mail: Xi.Xuguang@lbpa.ens-cachan.fr*

Keywords: RecQ helicases; DNA-binding; Zinc finger motif

The RecQ family of DNA helicases play an important role in the maintenance of genomic integrity. Mutations in human RecQ genes lead to genomic instability and cancer. Several RecQ family helicases contain a putative zinc finger motif of C_4 type at the C-terminus that has been identified in the crystalline structure of RecQ helicase from *E. coli*. In order to understand the roles of this motif in the RecQ helicases, we constructed in *E.coli* a series of mutations altering its highly conserved residues. Punctual mutations affecting a fully conserved salt bridge showed that the zinc finger motif is surprisingly crucial for the whole protein integrity. Moreover, a double mutant protein in which both cysteine 398 and 402 in the zinc finger motif were replaced showed only slight local conformational changes and displayed ATP binding affinity similar to the wild type enzyme. However, it was severely impaired in DNA binding and for the subsequent ATPase and helicases activities. These results illustrate the importance of the zinc finger motif for DNA binding and suggest that structure elements of this subdomain are directly involved in this process. We underwent the crystallisation of the mutant enzyme to initiate the study of the structural consequences of the double mutation of cysteines 398 and 402.

s1.m8.p31 **Crystal structure of major cat allergen Fel d 1.** Tatyana Sandalova[2], Liselotte Kaiser1, Hans Grönlund1, Hans-Gustaf Ljunggren[3], Marianne van Hage-Hamsten[1], Adnane Achour[3] and Gunter Schneider[2], *[1] Department of Medicine, Unit of Clinical Immunology and Allergy, Karolinska Institutet and Hospital L2:04, S-171 76 Stockholm, Sweden, [2] Department of Medical Biochemistry and Biophysics, Karolinska Institutet, Scheelev 2, S-171 77 Stockholm, Sweden, [3] Center for Infectious Medicine, F59, Department of Medicine, Karolinska Institutet, Huddinge University Hospital, S-141 86 Stockholm, Sweden. E-mail: tatsan@ki.se*

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The domestic cat (*Felis domesticus*) is an important cause of allergic asthma worldwide. The crystal structure of the major cat allergen Fel d 1 has been determined to a resolution of 1.85 Å using seleno-methionine substituted protein. The fold of Fel d 1 presents a striking resemblance to uteroglobin, a steroid-inducible cytokine-like molecule with anti-inflammatory and immunomodulatory properties, providing a possible explanation for the allergenicity of Fel d 1. An internal pocket is present within both structures, but the shape of the cavity as well as the properties of the Fel d 1 residues lining the cavity indicate a different kind of ligand than those proposed for uteroglobin. Residual electron density within the cavity indicates the presence of an unknown ligand. A comparison of the structures of Fel d 1, oxidized and reduced uteroglobin suggests that the Fel d 1 ligands use a similar path to enter the cavity. Three previously defined IgE epitopes map on the surface of Fel d 1.