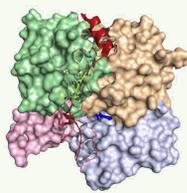
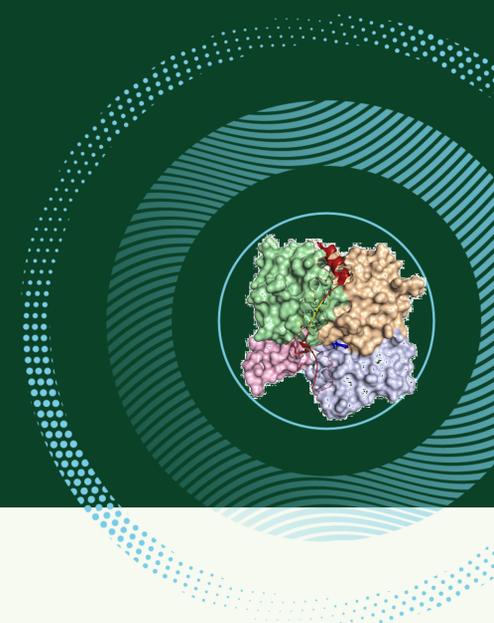


# Structural Biology of Proteins in Health and Disease

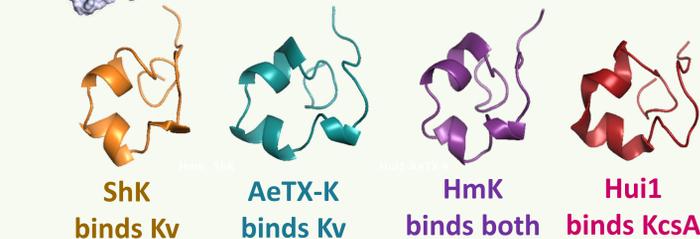
The Biomolecular NMR Laboratory / Prof. Jordan Chill



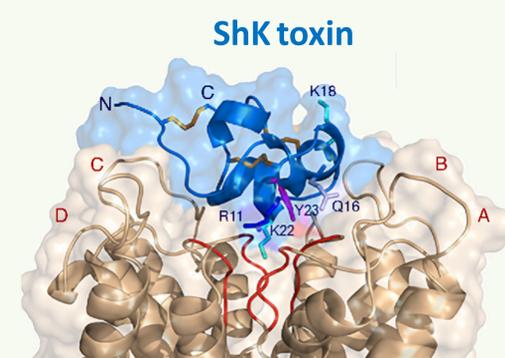
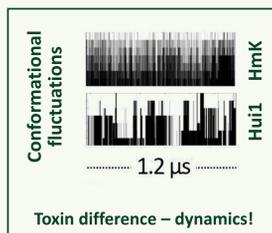
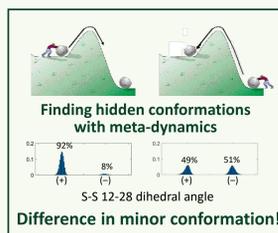
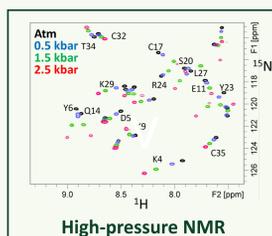
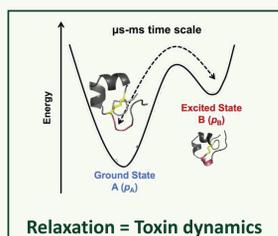
Our mission in the Chill group is to unravel the secrets of **structure, dynamics and function of proteins and their roles in health and disease**. To do this we study the cellular biochemistry of proteins on the structural level and their interactions with ligands and other proteins using **biomolecular nuclear magnetic resonance (BioNMR)** as our leading technique. With this and other biophysical methods we address mechanistic and therapeutic aspects of **cancer, neurodegenerative diseases, immunodeficiencies** and more.



## From sea-anemone toxin to pharma K<sup>+</sup>-channel blocker

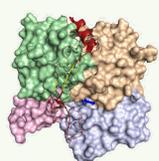


Structures solved by NMR  
How does the channel recognize toxins?

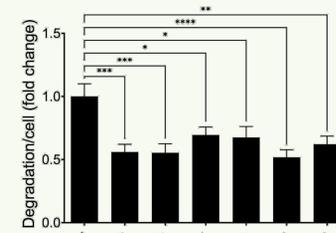
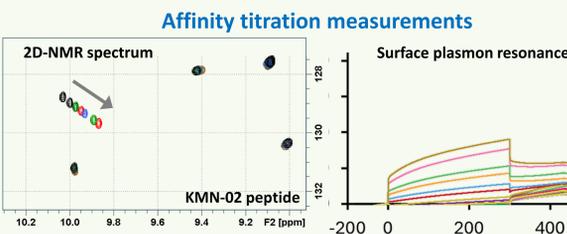
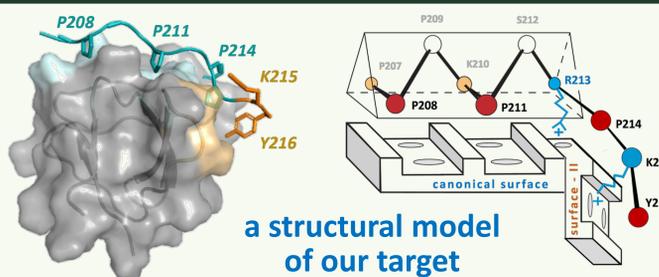
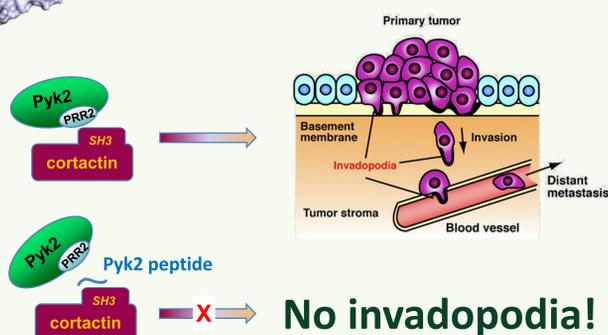


**K<sub>v</sub>1.1 K<sup>+</sup>-channel (epilepsy)**  
**K<sub>v</sub>1.3 K<sup>+</sup>-channel (autoimmune disease)**

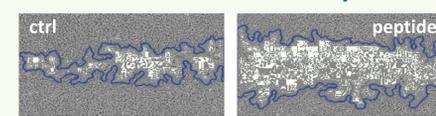
Collaboration with Prof. Major, Chemistry Dept.



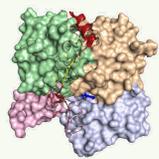
## Stop the invasion: can our peptide fight metastatic breast cancer?



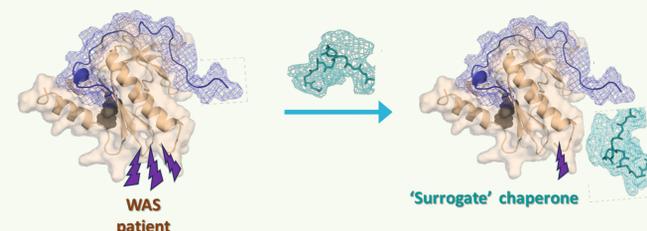
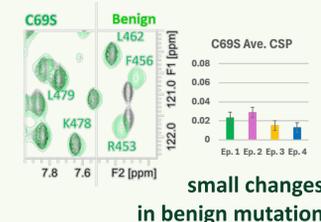
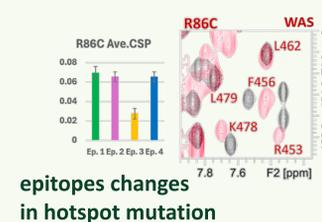
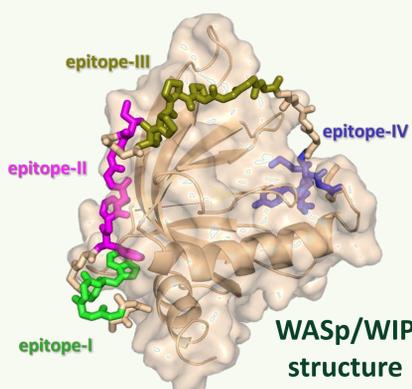
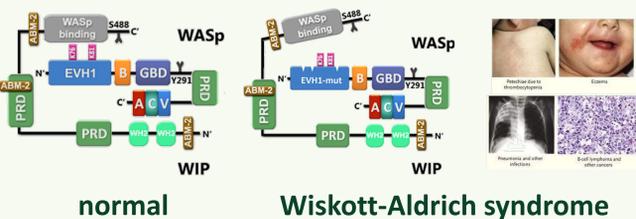
Scratch-wound assay



Collaboration with Prof. Gil-Henn, Faculty of Medicine



## The quest for a cure for a rare immunodeficiency



A structural view of WAS – understanding the effects of mutations



Dr. Inbal Sher



Chen Timsit



Inna Sasson



Miriam Gulman



Sai Krishna Pullabhatla



Nina Vaizman



Inna Mininberg



Avishag Barzilay

Thanks to all our GREAT students!  
(past and present)