



Protein Structure in Disease and Therapy

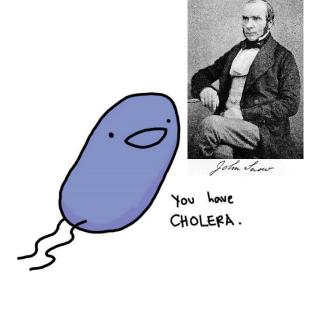
Nicole Dickson

Michigan State University, Karolinska Institutet

EuroScholars Midstay Program









Biodefense solutions to protect our nation







Protein Structure in Disease and Therapy

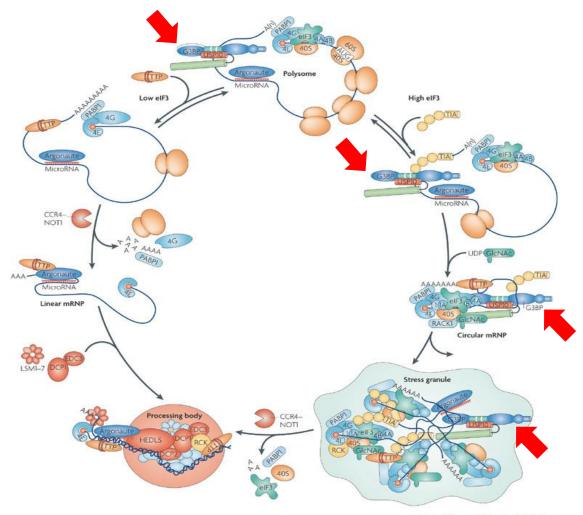
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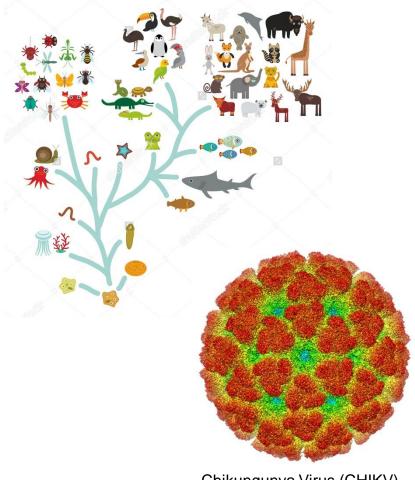
The Role of G3BP



Nature Reviews | Molecular Cell Biology



Unfortunately...



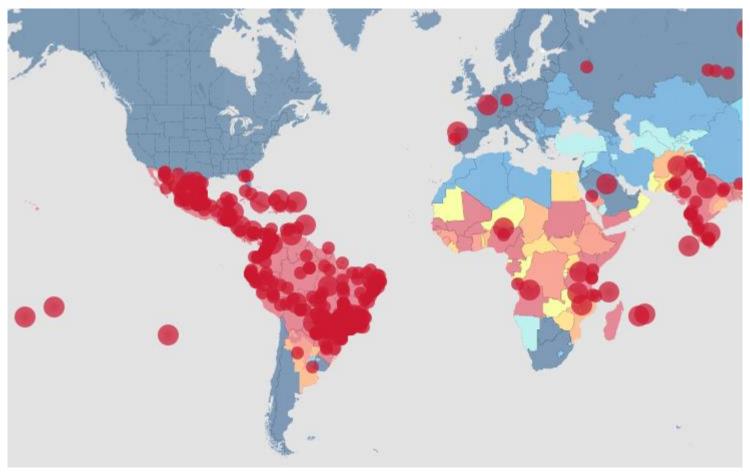
Chikungunya Virus (CHIKV) – http://emdatabank.org/



Semliki Forest Virus (SFV) – rmcvirology.blogspot.com



The Problem...

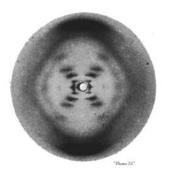


http://www.natureworldnews.com/

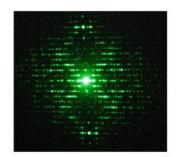


Fortunately...

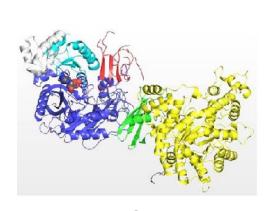
X-Ray Diffraction (old and new)



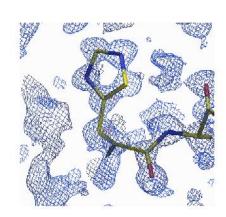
The seminal photograph taken by Rosalind Franklin that revealed the structure of B-DNA.



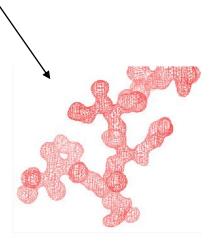
An optical transform of DNA created by the University of Wisconsin's Institute for Chemistry Education.



Protein Structure



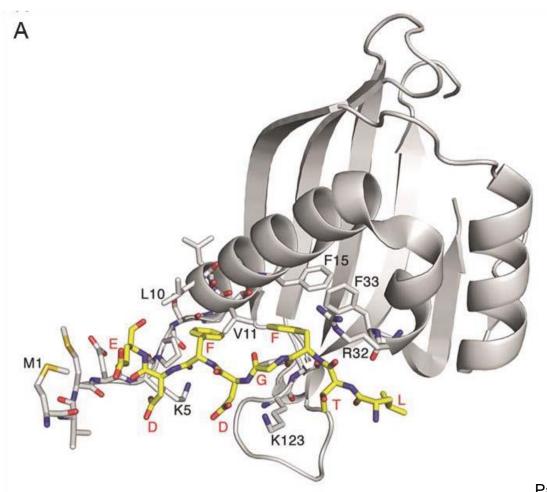
Filling/Fitting



Electron Density Map



Published Results



Panas, M. D. (2014). Dissection of virus-host cell interactions in the early response to infection.



What we're working on...

- Examination of both viral termini in binding G3BP
- Crystallization of CHIKV complexes
- Examination of binding mechanism of G3BP to the motifs
- Creating a clearer, more accurate model of G3BP binding to the FGDF binding motif of SFV/CHIKV



Acknowledgements



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