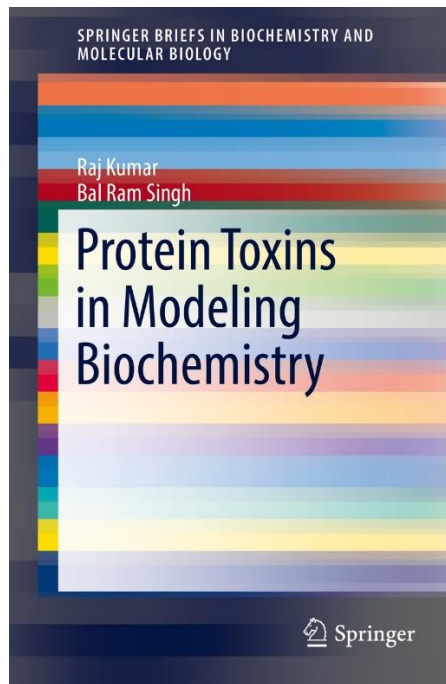
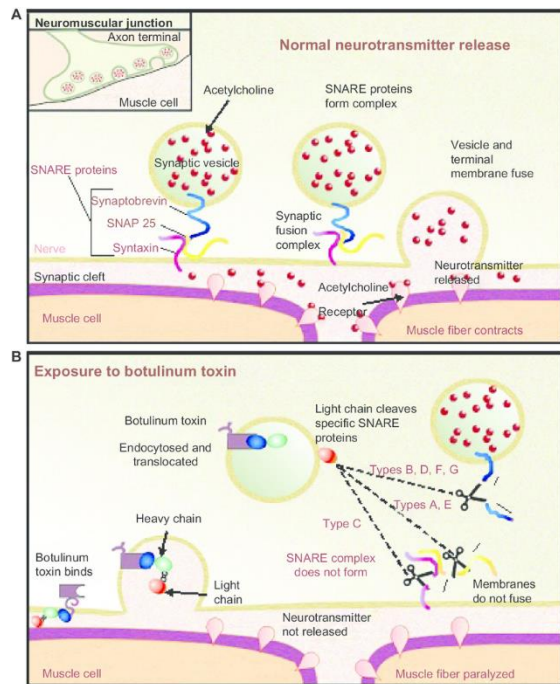


Botulinum Beast turn into Medicine through Mechanism

Clostridium botulinum has been around long before even oxygen showed up on Earth, and it continues to thrive when there is plenty of oxygen. That means it has evolved to adapt, and it has developed a molecule that deals with the harsh environment of temperature in food, enzymes of the GI tract, the robust gut mucosal barrier, body defenses such as blood brain barrier, selectivity of the neuronal cells, and the most protected biological machinery of the nervous system, both at the autonomous and skeletal levels.



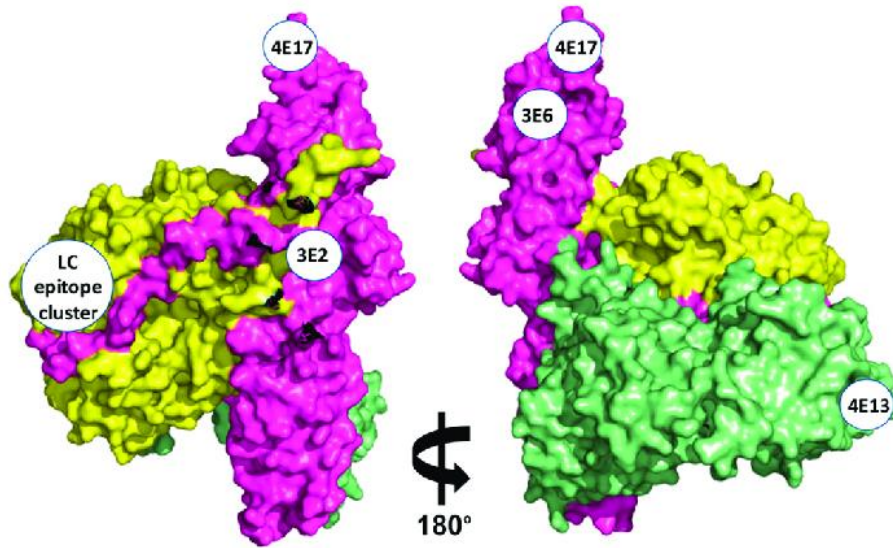
Botulinum

neurotoxin has its army of NAPs which clear the ways, provide the defenses, and make it congenial for the toxin to do its action, even as remain protected inside a foreign cell for months. It is now well understood that it does more than just blockage of the acetylcholine release, and in fact seems to take command of the body physiology and metabolism.

With detailed understanding of its mechanism in its action of blocking the neurotransmitter release, the poison has been made a panacea, providing relief to millions of people, generating a business worth nearly \$10 billion. Understanding the mechanisms involved in rest of its action, both subtle and gross, is paused for its next major lines of therapeutics, from action against neurodegenerative diseases to for smart brain development.

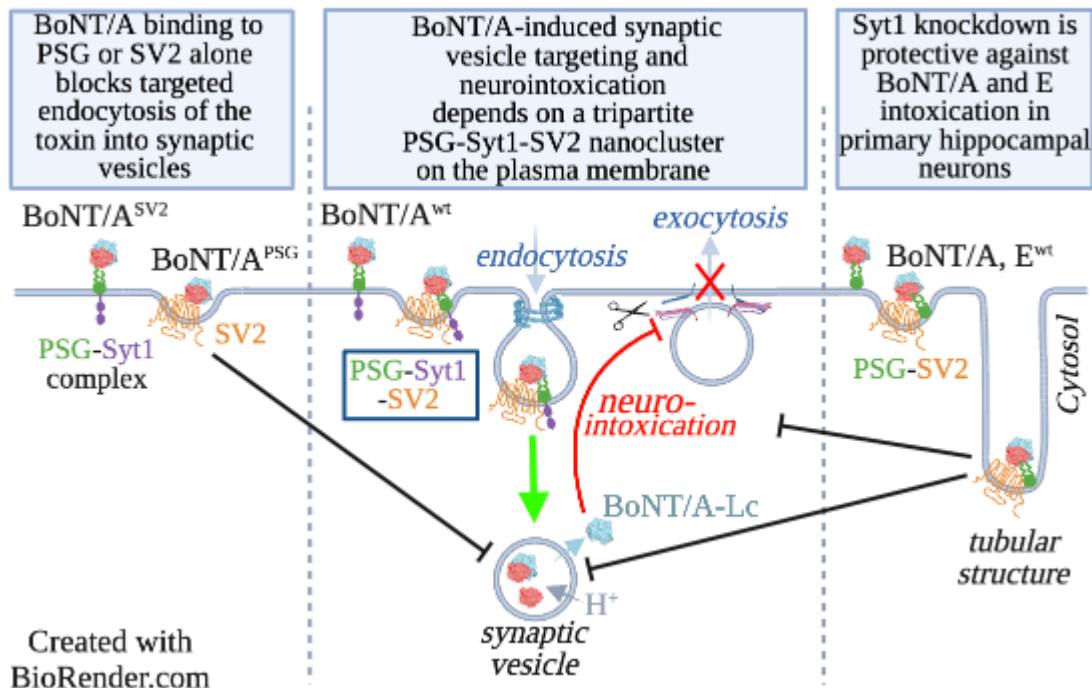
Let's join at the unique 18th Annual Symposium organized by the Botulinum Research Center, Institute of Advanced Sciences on August 14-16, 2024. It has always been fun and fruitful to join physician, academic, defense, health, corporate, and philanthropic researchers to collaborate for public good.

The 18th Symposium features some of the pioneers in the botulinum research as Distinguished Speakers.

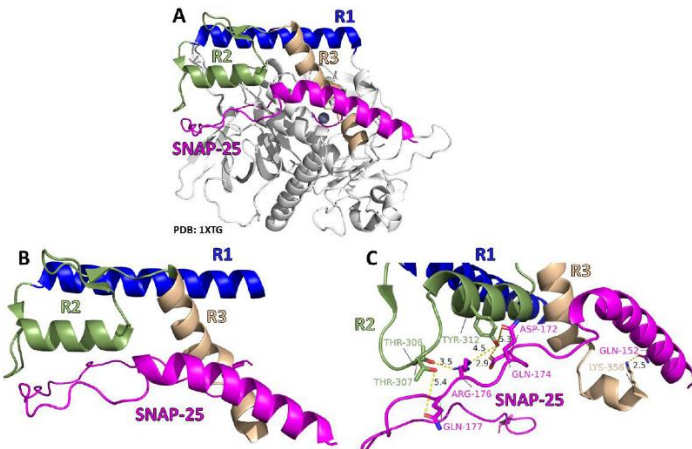


Professor Jim Marks, University of California San Francisco innovated monoclonals against botulinum neurotoxin for countering its poisoning effects decades ago that has changed the face of countermeasure efforts against botulism.

Professor Frederic Meunier of the University of Queensland's Brain Institute has pioneered the detailed biochemical mechanism for the entry of botulinum neurotoxin that involves a tripartite nanocluster made of polysialogangliosides, synaptotagmin 2 and SV2 receptor, leading to the detailed understanding of a major step on BoNT action. These findings may open doors for targeting the toxin to specific neurons for identifying and explaining effective use of BoNT therapeutics and countermeasures.



Professor Joe Barbieri of **Medical College of Wisconsin**, a pioneer in the recombinant BoNT endopeptidase preparation for understanding the mechanism of intracellular enzyme activity has been using a single cell assay of LC/A1 expression with individual Dominant Negative (DN) Rab GTPases, a subset of DN Rabs were identified that inhibit bulk LC/A1 localization to the plasma membrane and LC/A1 cleavage of SNAP-25.



Other prominent researchers include previous Lifetime Achievement Awardees Professor **Eric Johnson** and Professor **Dirk Dressler**, among others!

Please join to continue the tradition of advancing research and application of botulinum neurotoxins.....Visit - <https://brc.inads.org/>