Record Nr. UNINA9910349507303321 Autore Bräuning Bastian **Titolo** Structural and Biochemical Characterization of the YaxAB Pore-forming Toxin from Yersinia Enterocolitica / / by Bastian Bräuning Pubbl/distr/stampa Cham:,: Springer International Publishing:,: Imprint: Springer,, 2019 **ISBN** 3-030-29439-0 Edizione [1st ed. 2019.] Descrizione fisica 1 online resource (XXXI, 86 p.) Collana Springer Theses, Recognizing Outstanding Ph.D. Research, , 2190-5053 Disciplina 660.62 615.95 Microbiology Soggetti **Proteins** Analytical chemistry Biochemical engineering Bacteriology Applied Microbiology Protein Science **Analytical Chemistry Biochemical Engineering** Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di contenuto Introduction -- Objectives -- Materials & Methods -- Results --Discussion. Sommario/riassunto This book discusses the decoding of the lytic mechanism of an helical pore-forming toxin, YaxAB, composed of two different subunits. Pore-forming toxins (PFTs) are among the most common bacterial toxins. They are produced by a variety of pathogens, which infect a wide range of organisms including plants, insects and humans. Yet the maturation of these particles and the structural changes required for pore formation are still poorly understood for many PFT families. Using a diverse panel of biochemical and structural techniques, including X-

ray crystallography and cryo-electron microscopy, Dr. Bräuning and colleagues have succeeded in identifying the mechanistic contributions

of the two toxin components and elucidating the lytic state of the pore complex. The results of this thesis on the YaxAB system are applicable to orthologues from agriculturally relevant insect pathogens, and offer valuable structural and mechanistic insights to inform future bioengineering efforts.