RTX Toxins of *Actinobacillus pleuropneumoniae*

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*Actinobacillus pleuropneumoniae*, the causative agent of porcine pleuropneumonia, secretes three different toxins; ApxI, ApxII, and ApxIII. Each serotype reference strain secretes only one or two of these toxins. The toxins play a key role in the pathogenesis.

In the poster data are presented on the molecular structure of the Apx toxins, the organization of their genetic determinants, the dissemination of these determinants among field strains and other *Actinobacillus* species, and on the role of the Apx toxins in pathogenesis. We conclude that the Apx toxins are members of the pore forming RTX toxin family. They are encoded by (truncated) operons that consist of four genes: the posttranslational activator gene *apxC*; the toxin structural gene *apxA*; and the secretion genes *apxB* and *apxD*. The organization of the Apx operons in the various serotypes correlates well with their Apx secretion profiles. The presence of *apxI*, *apxII*, and *apxIII* genes is specific to a given serotype of *A. pleuropneumoniae*, but not specific for the species. Horizontal transfer of *apx* determinants seems to occur among different *Actinobacillus* species. The Apx toxins are the major virulence factors that prevent clearance of the pathogen from the lung by the inactivation of phagocytic cells.

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