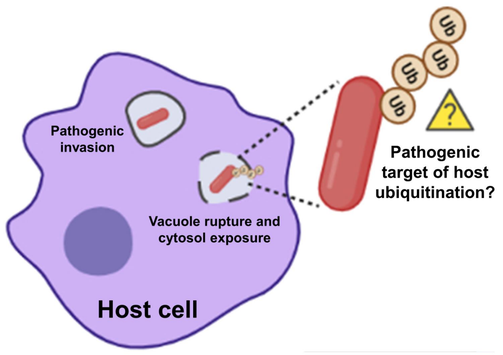
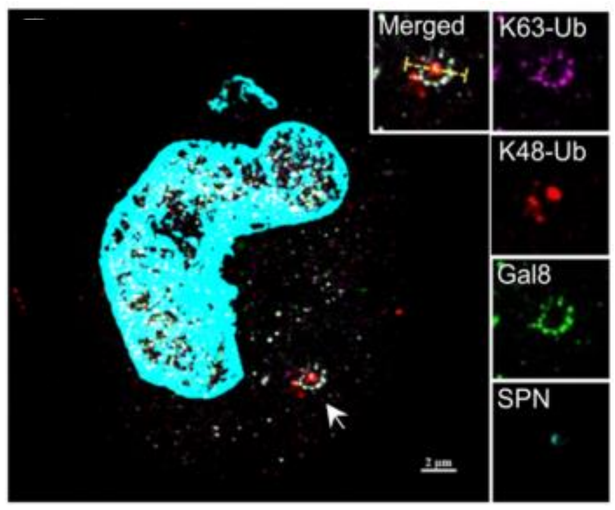
Ubiquitination of bacterial substrates act as novel innate pathogen sensing strategy

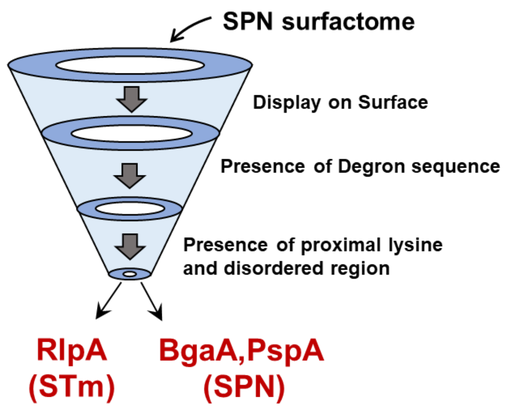
Shruti Apte, Smita Bhutda, Sourav Ghosh, Anirban Banerjee*
Biosciences and Bioengineering Dept., IIT Bombay, INDIA

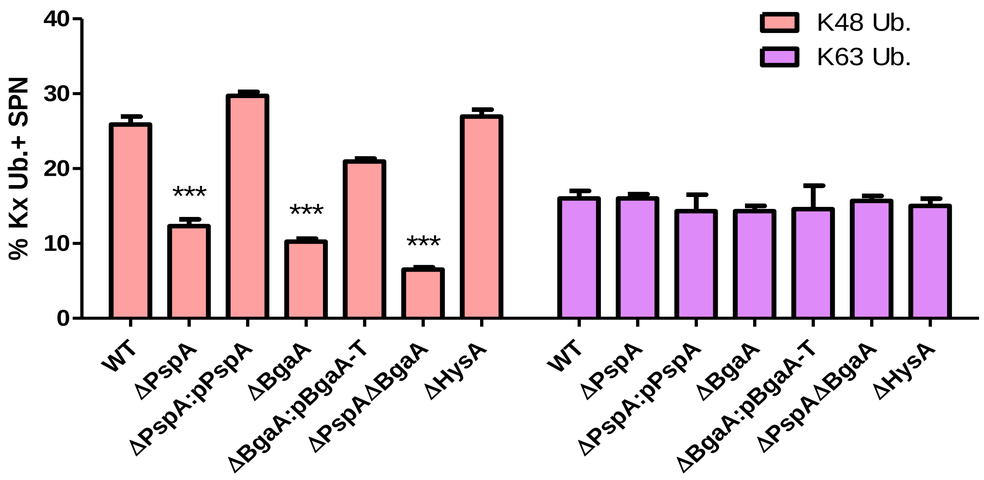
Key question!

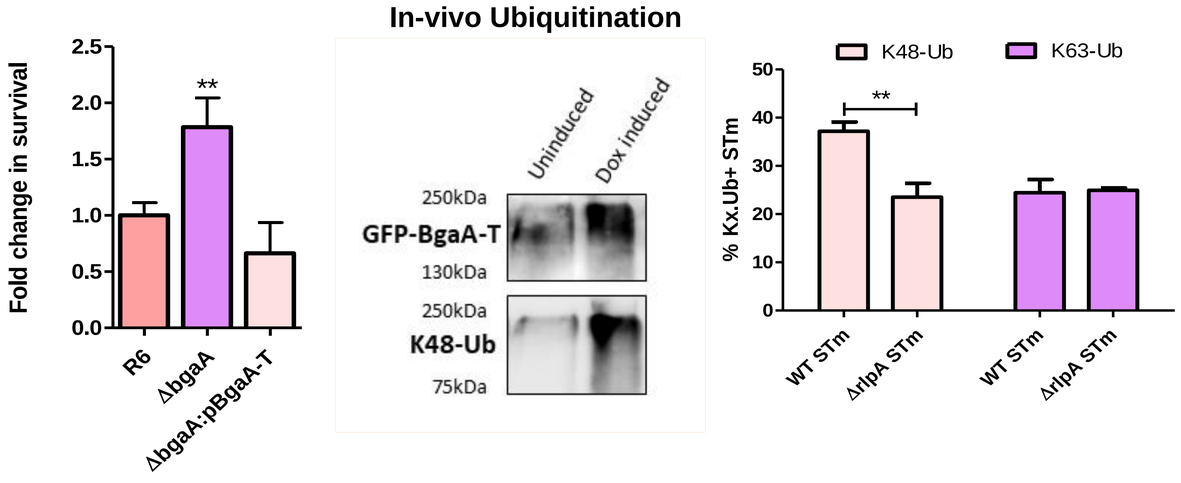


Cytosolic pathogens are ubiquitinated by recognizing Tripartite degron in their surface protein



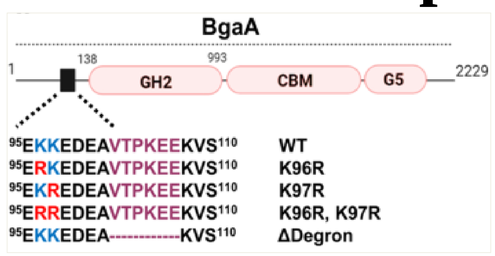


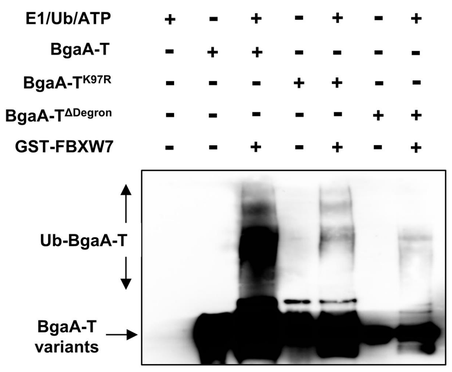


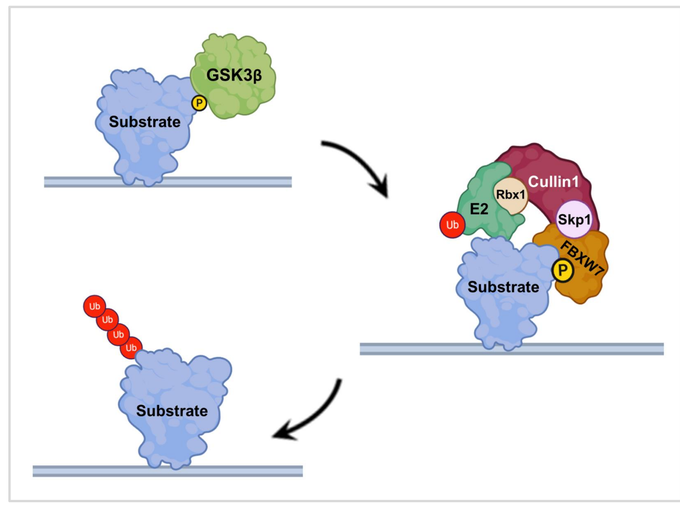


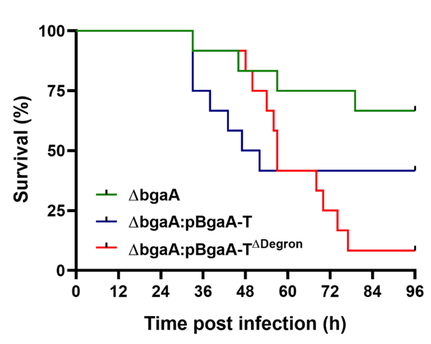
SPN- *Streptococcus pneumoniae*
STm- *Salmonella enterica* **serovar Typhimurium**

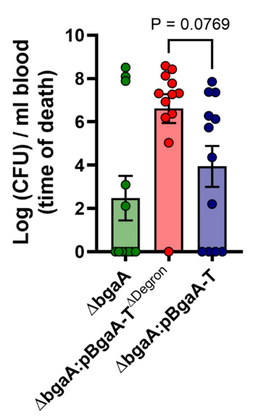
Components of tripartite signal are essential for identification of BgaA by SCF^{FBW7} complex in-vitro and in-vivo

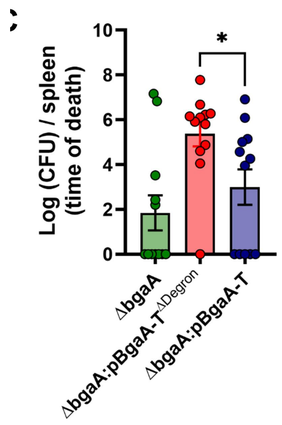


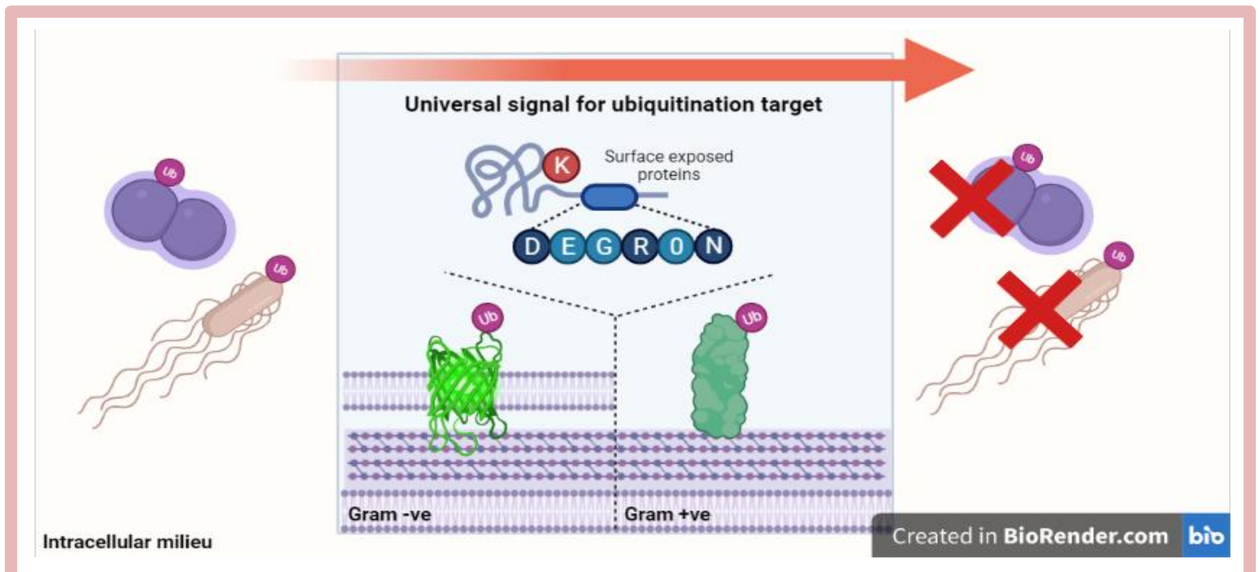












Highlights:

- The surface exposed proteins of pathogen fulfilling the tripartite degron signal acts as a substrate for K48-Ub chaining
- Mutating the components of tripartite degron signal in pathogenic protein abolishes its efficient identification and survival benefit
- Artificial addition of degron signal in a non-substrate protein of pathogen renders it recognizable by host E3 ligase
- SCF^{FBW7} E3 ligase complex supported by GSK3β plays a novel role in sensing and clearing intracellular pathogen

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