

Pseudomonas aeruginosa



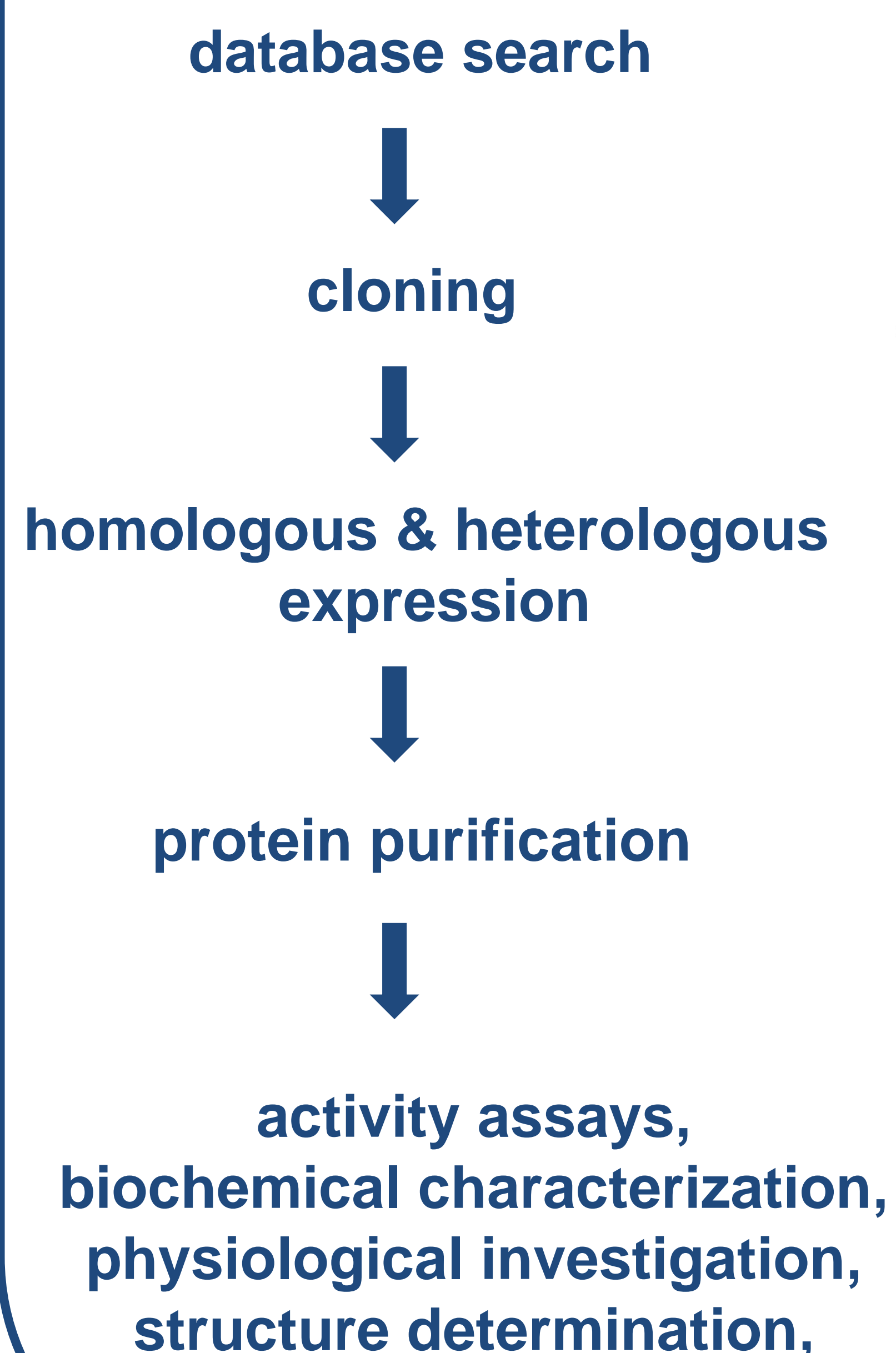
(www.pseudomonas.com)

- is an aerobic, motile, Gram-negative rod
- Is an opportunistic human pathogen
- is associated with chronic airway infection
- is resistant to many antibiotics

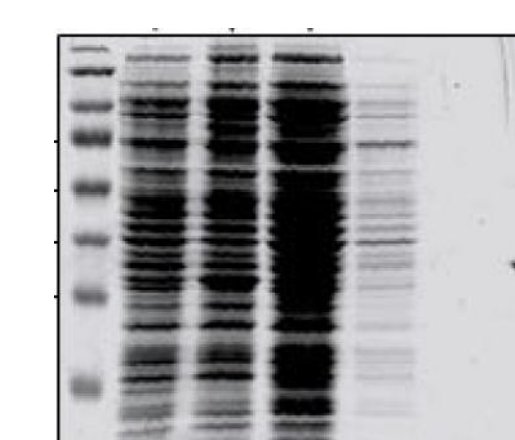
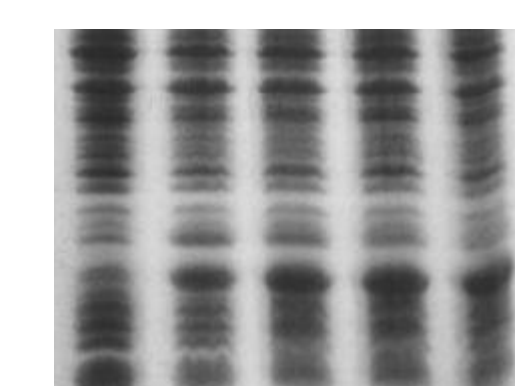
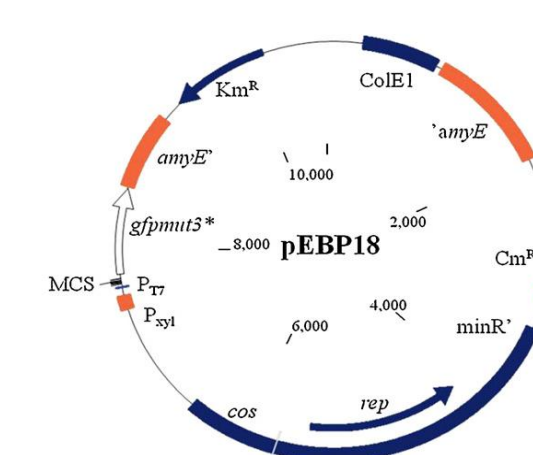
Proteins we are interested in:

- lectins
- lipases
- esterases
- phospholipases
- proteases

Identification of novel enzymes in *P. aeruginosa*

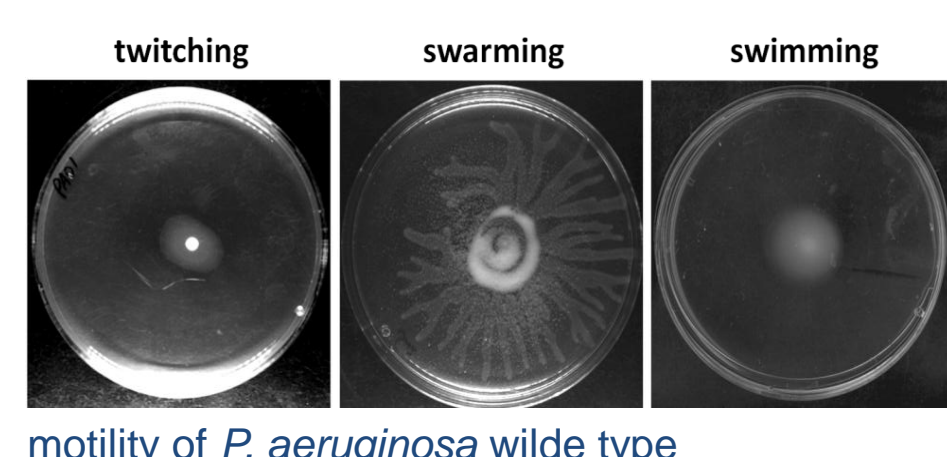


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SISGDSAGGGIVLAV
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LLAGDSAGGHLALS
AVGDSAGGNLAAVT
AVGDSAGGNLAAVV
VVQGESGGNLAAT
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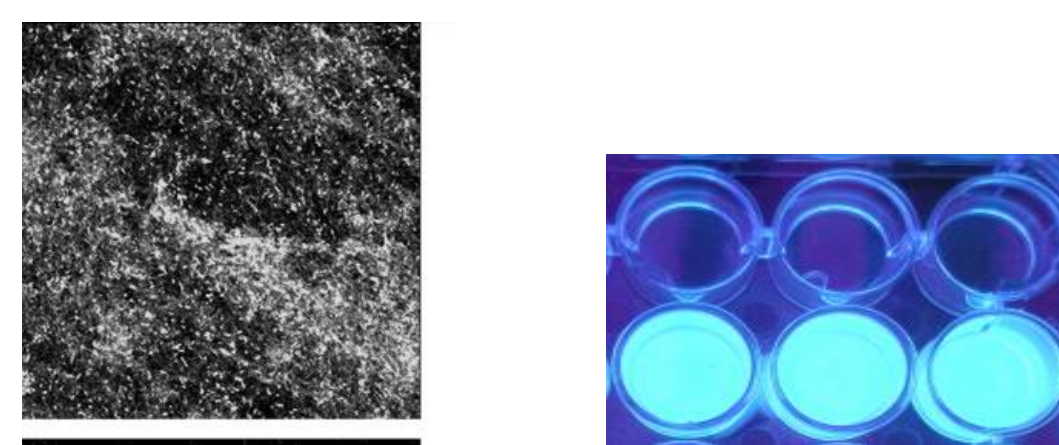
Characterization of virulence factors

Motility assays



motility of *P. aeruginosa* wild type

Biofilm formation



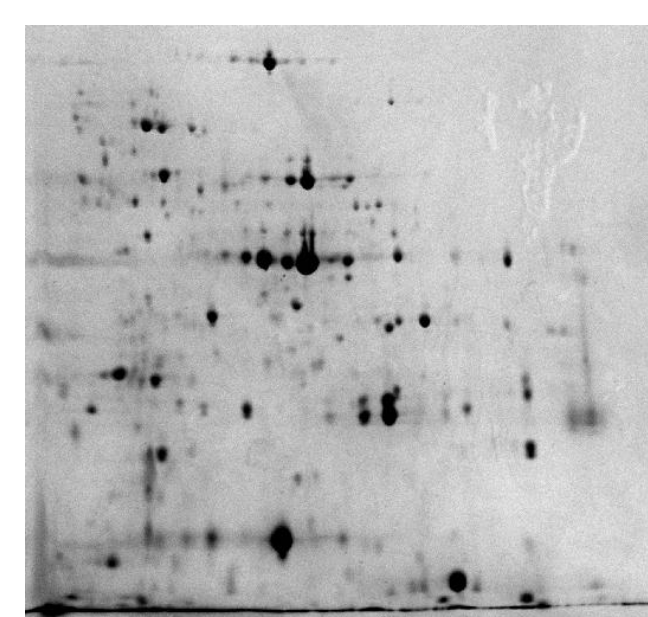
Biofilm of *P. aeruginosa*¹

Pyoverdine detection under UV-light

Siderophore production



Lipase activity assay

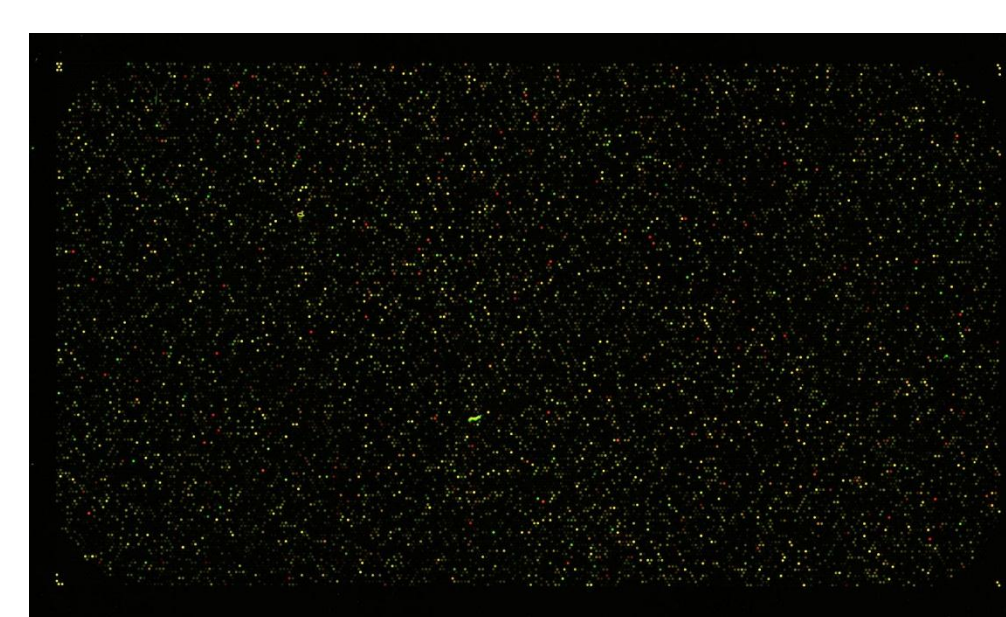


2D gel electrophoresis of *P. aeruginosa*

Activity assays

Proteom investigation

Microarray analysis

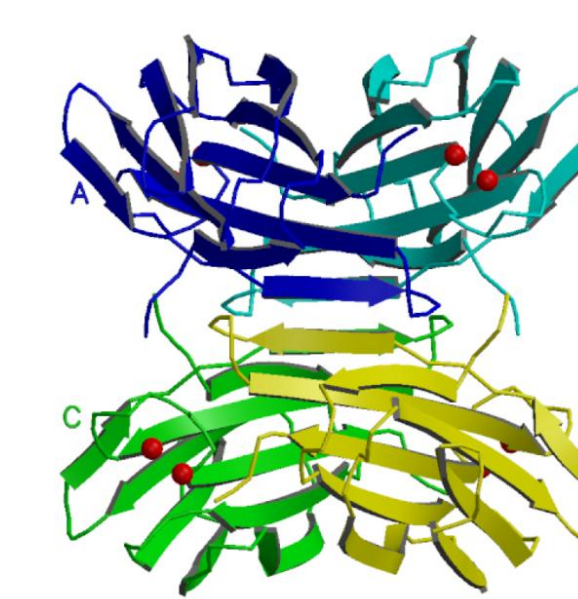


DNA microarray of *P. aeruginosa*

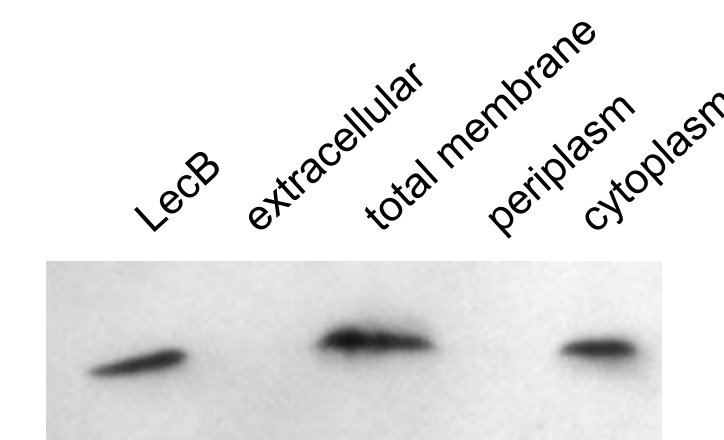
Investigation of *Pseudomonas* Lectins

Lectins

- are sugar-binding proteins
- function as central mediators of information transfer in biological systems
- play an important role in cell-cell interactions
- are secreted by unknown mechanism



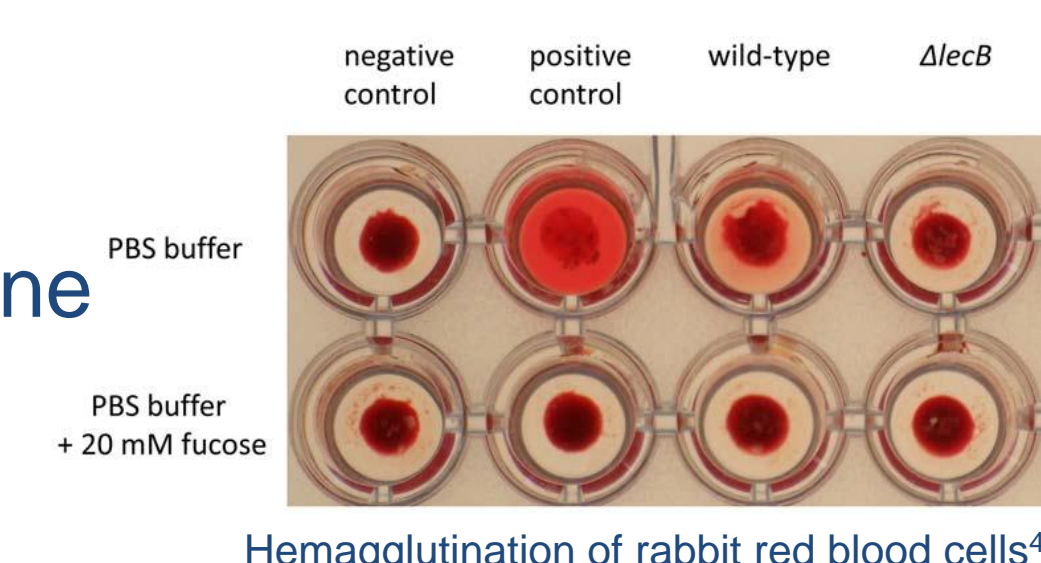
Structure of LecB from *P. aeruginosa*²



Localization of LecB by Western Blot³

P. aeruginosa LecB

- is located on the cell surface
- interaction with the outer membrane porin OprF
- is an N-glycosylated protein
- can agglutinate erythrocytes



Hemagglutination of rabbit red blood cells⁴