

Zinek jako skrytý hybatel horizontálního přenosu genů u *Enterococcus faecalis*

Ing. Denisa Fenclová

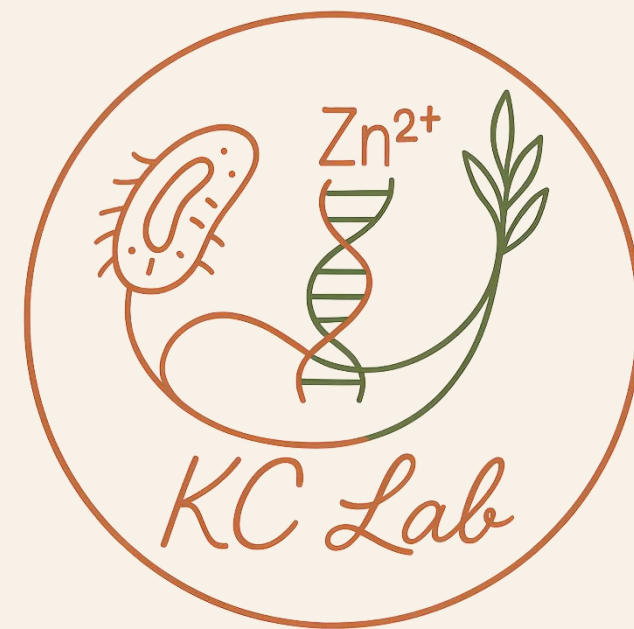
Ing. Kristýna Číhalová, Ph.D.

Mgr. Kristýna Hrazdilová, Ph.D.

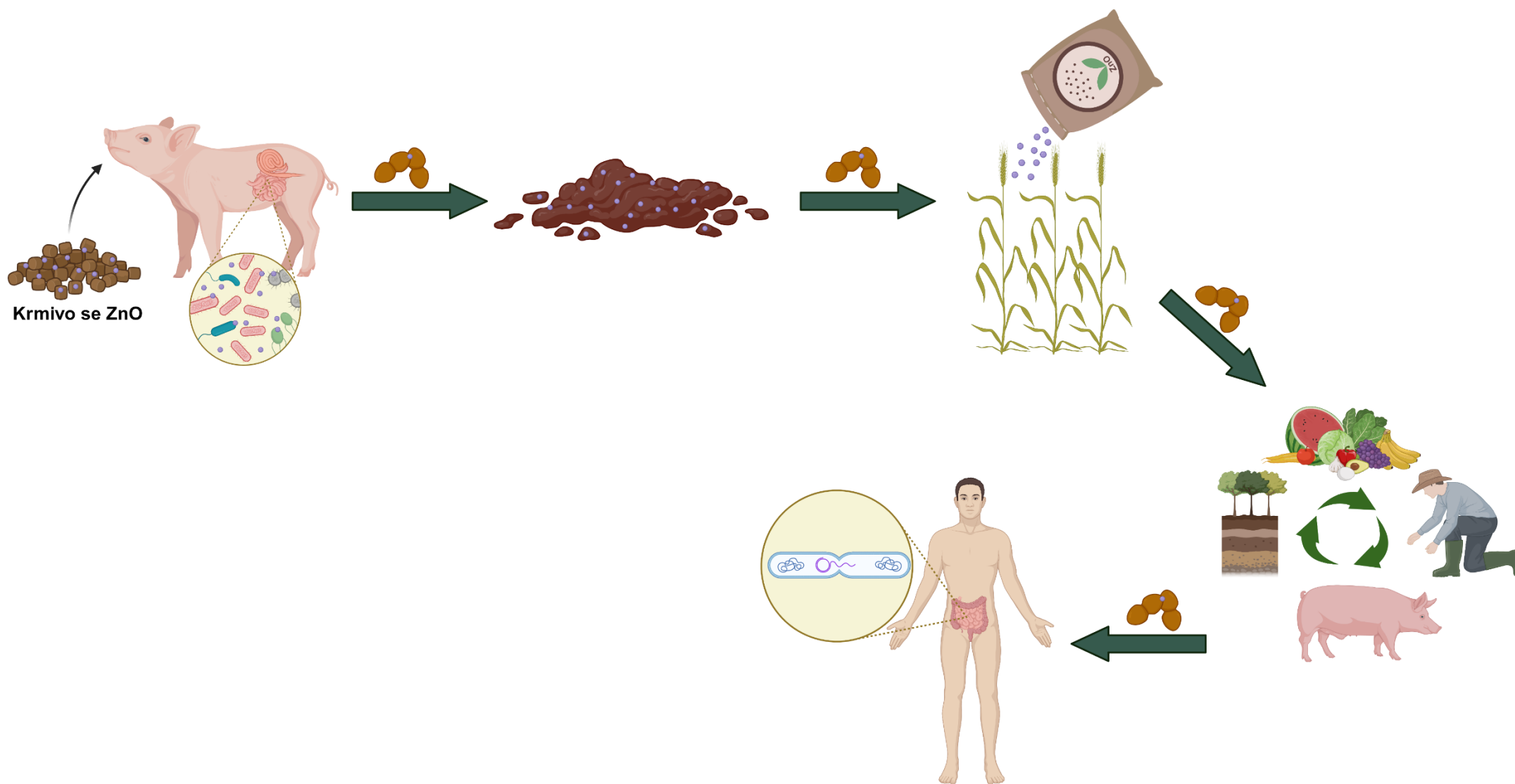
Josy ter Beek, PhD

Ronnie Berntsson, PhD

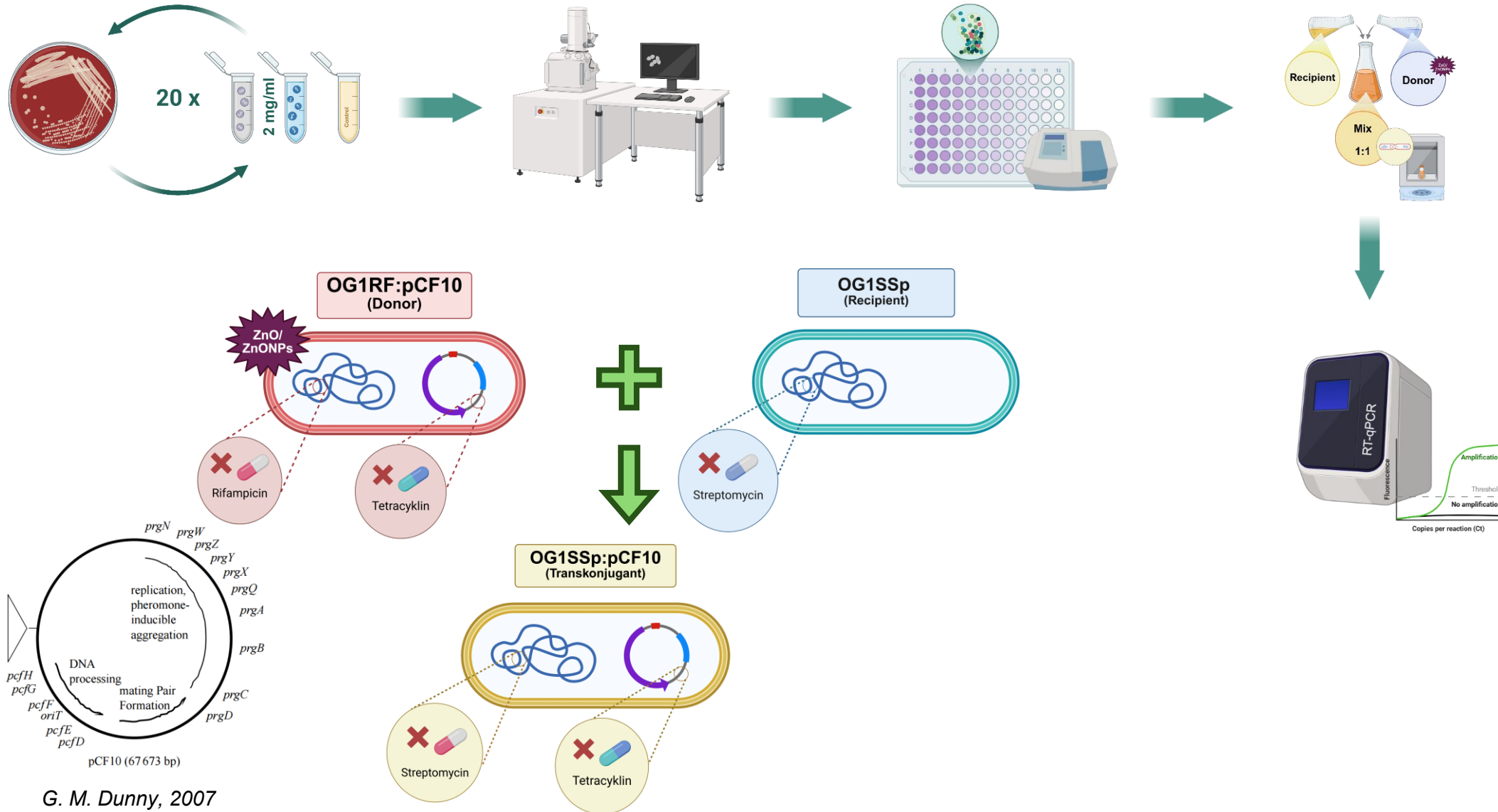
prof. Ing. Luděk Žůrek, Ph.D.



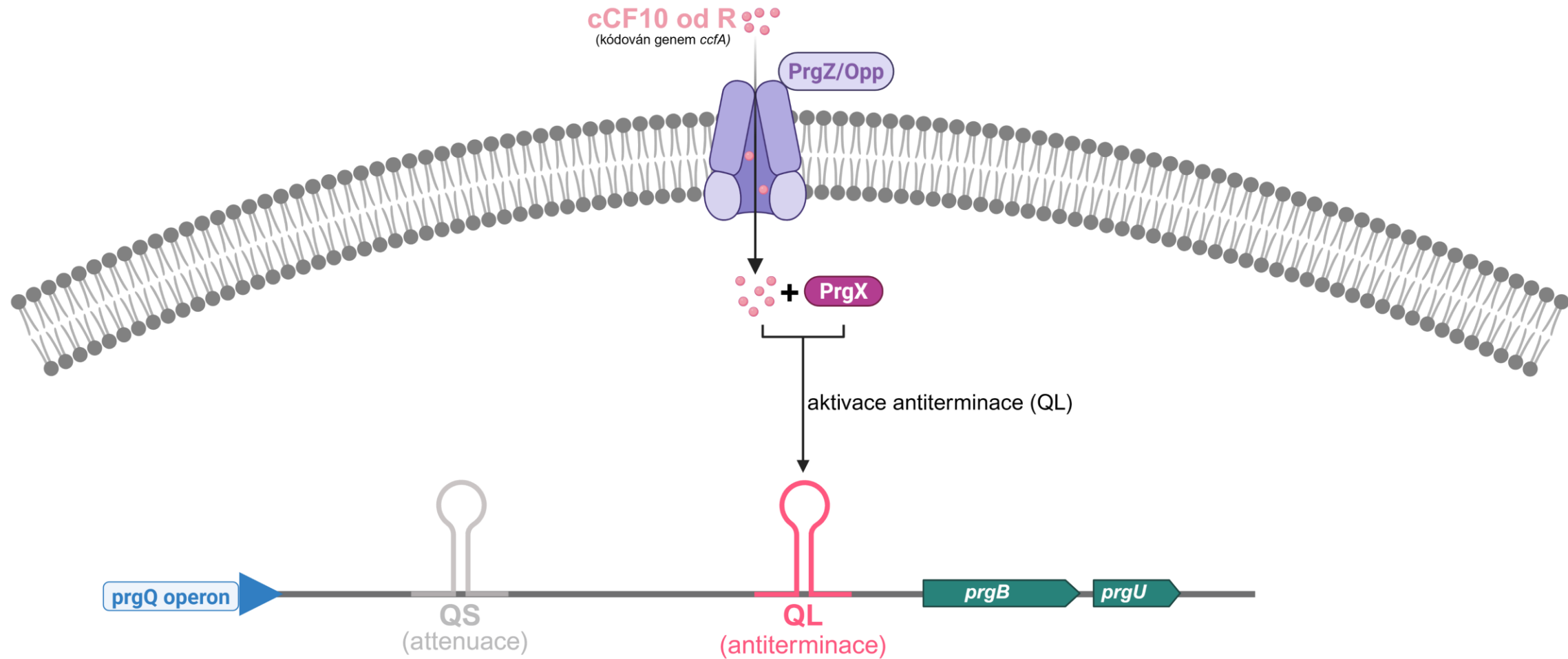
Proč zinek?



Metodika a vybrané kmeny

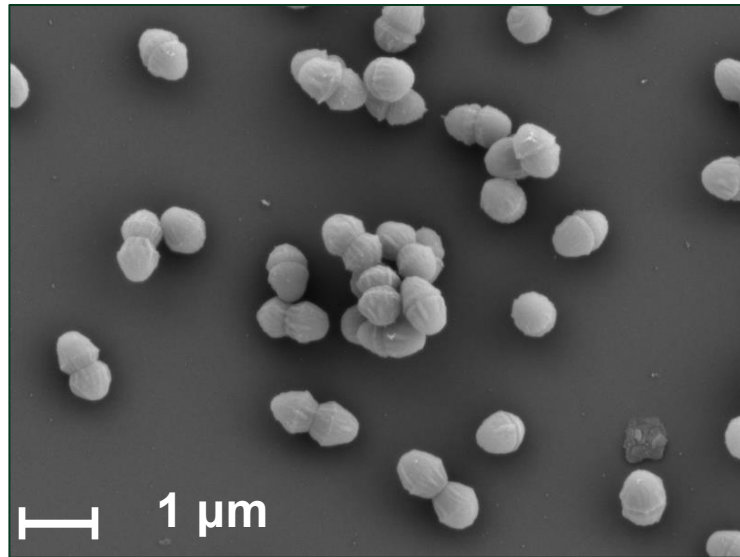


Feromonem řízená konjugace u *E. faecalis*

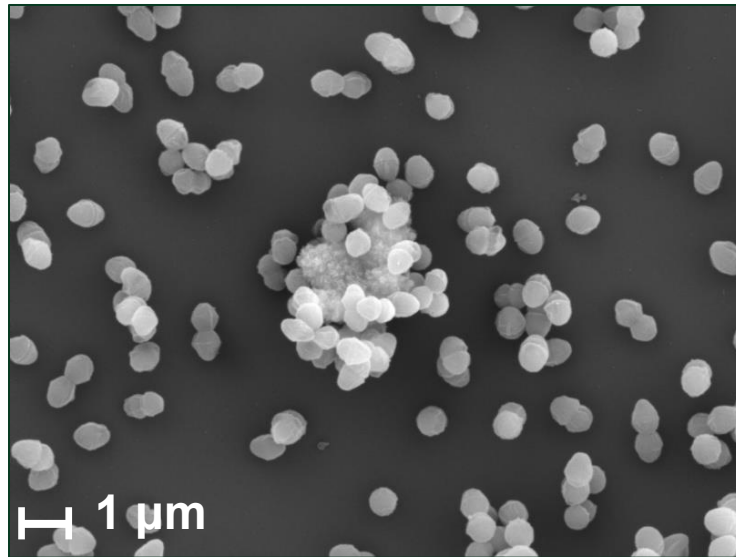


Změny v morfologii

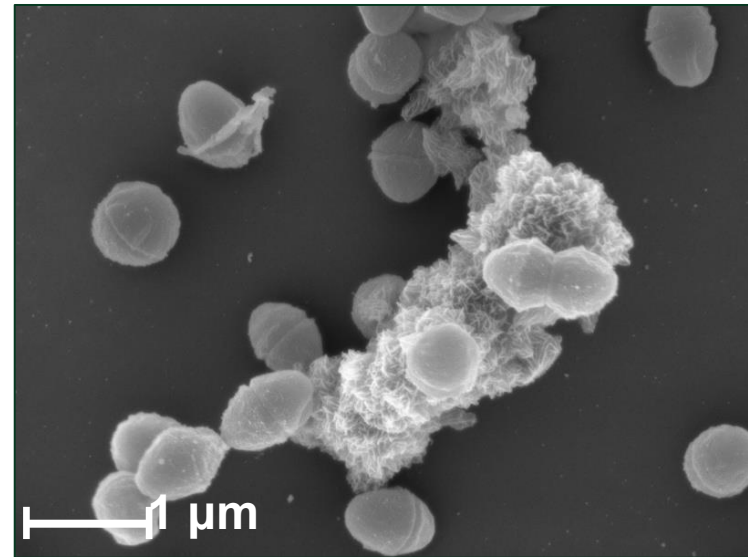
Control



ZnO

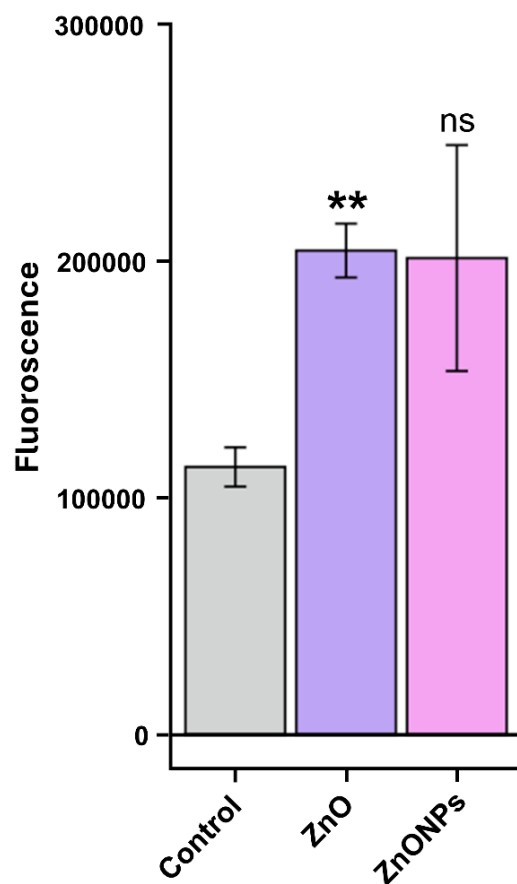


ZnONPs

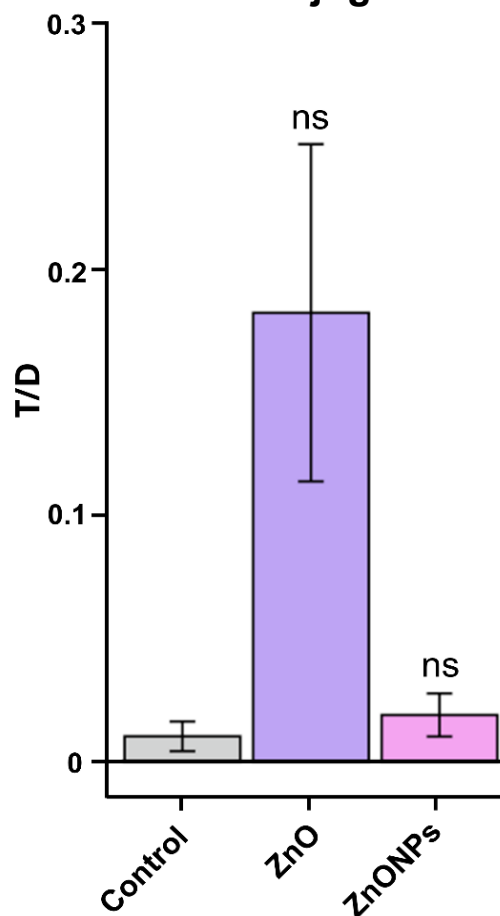


Fenotypové a transkripční změny

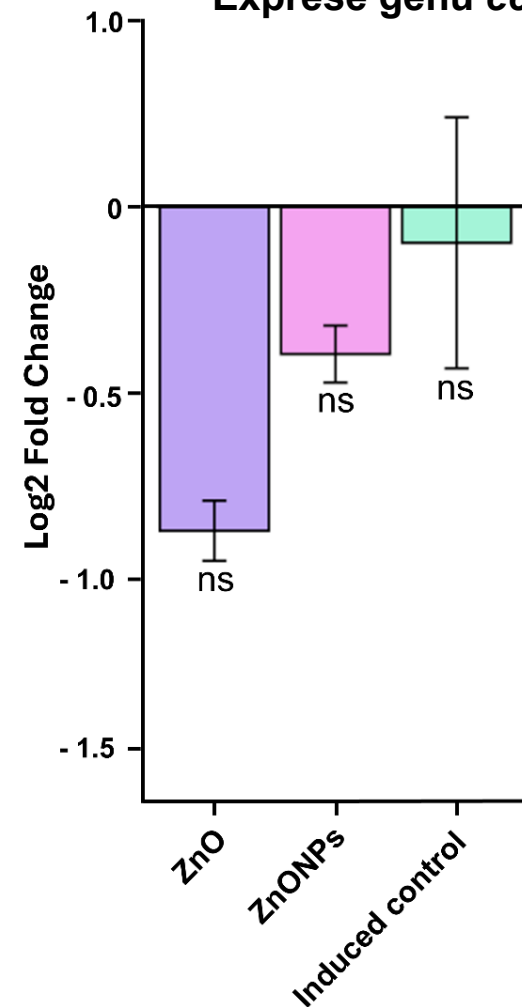
Tvorba biofilmu



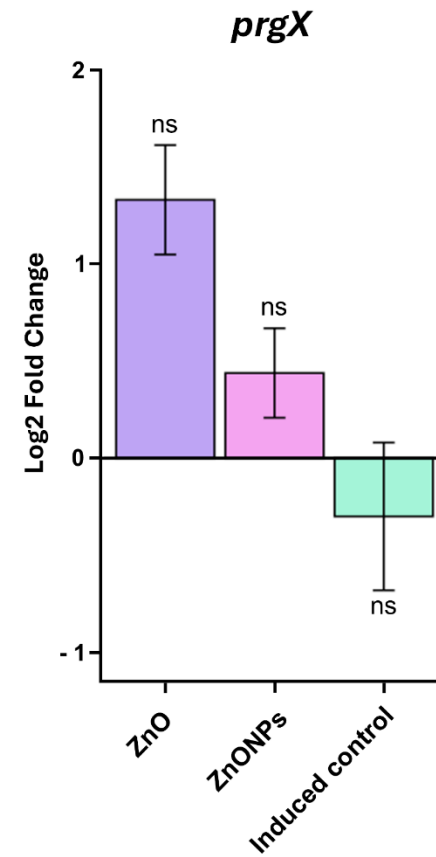
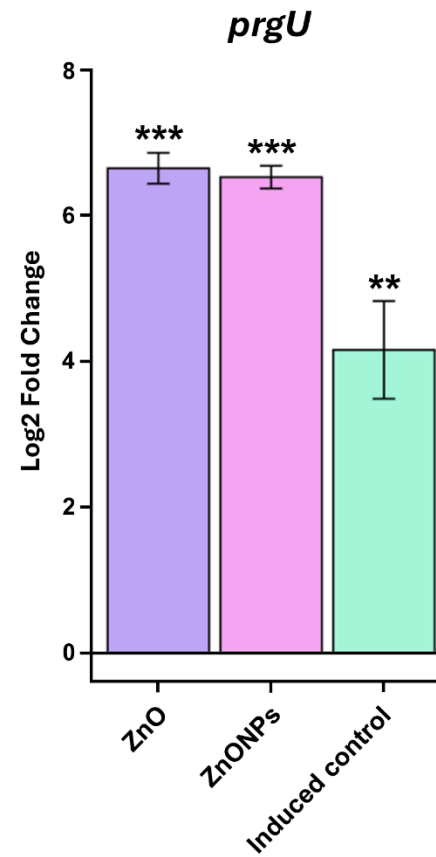
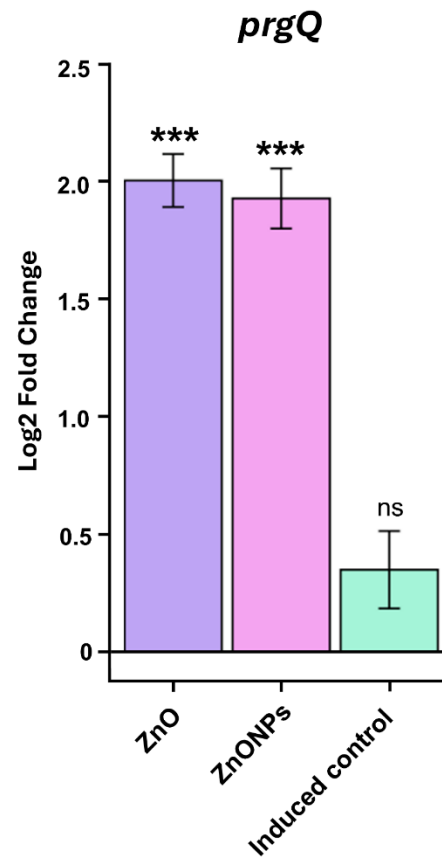
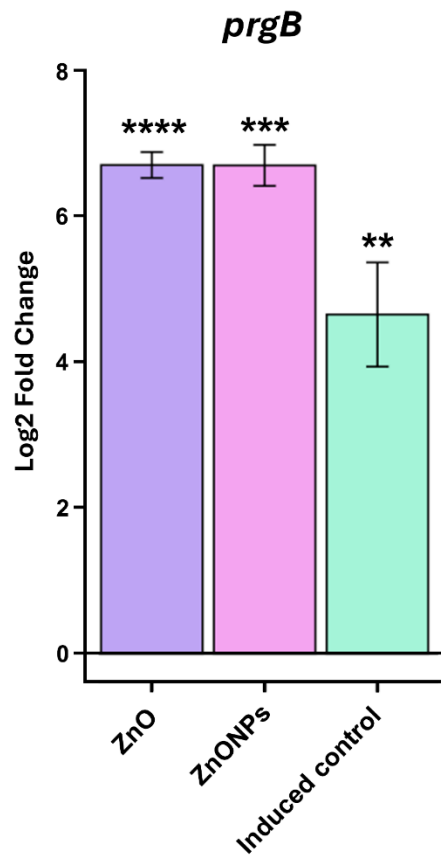
Konjugace



Expresse genu *ccfA*



Exprese genů asociovaných s konjugací

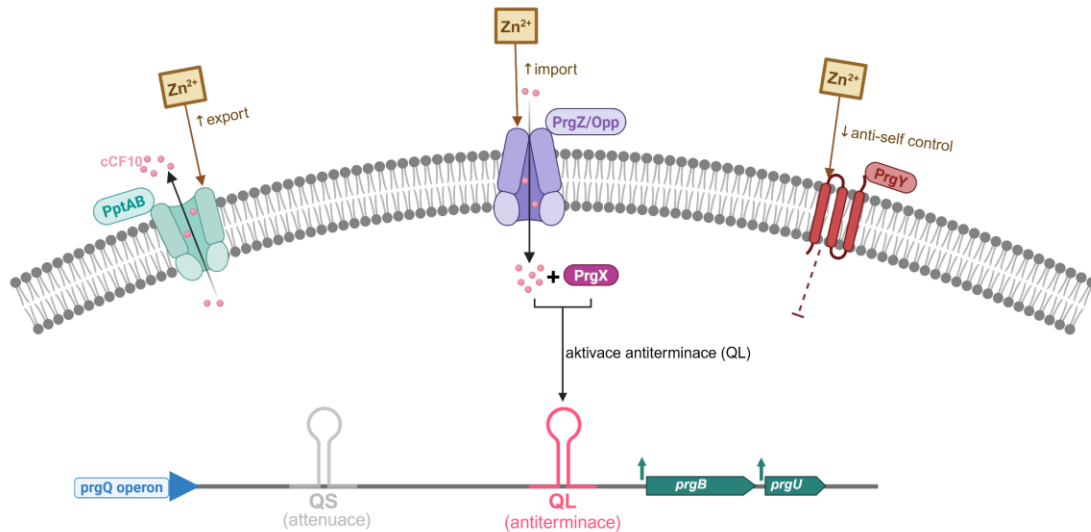


Shrnutí

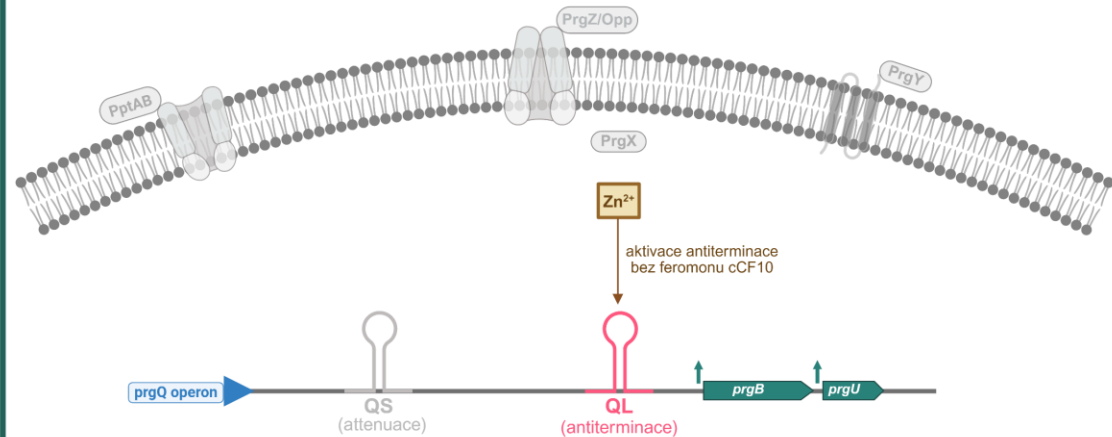
- Dlouhodobý Zn stres $\rightarrow$ $\uparrow$ **biofilm**, $\uparrow$ **agregace**, indukce *prgB/prgU* i bez feromonu

• Mechanismus

(i) Hypotéza senzitzace



(ii) Hypotéza bypassu



Znečištění zinkem může představovat další faktor ovlivňující šíření antibiotické rezistence a virulence.

Děkuji Vám za pozornost 😊

Ing. Denisa Fenclová



de.fenclova@gmail.com

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