

# Evaluation of two protein extraction protocols for *Pichia anomala* proteome analysis

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## Context

The yeast *Pichia anomala* strain K is a biocontrol agent against *Botrytis cinerea* and *Penicillium expansum* on postharvest apples. A proteomic approach will be used to improve the understanding of its mode(s) of action considering the Antagonist/Pathogen/Host interactions.



Sample preparation constitutes a critical step for 2D-gels quality

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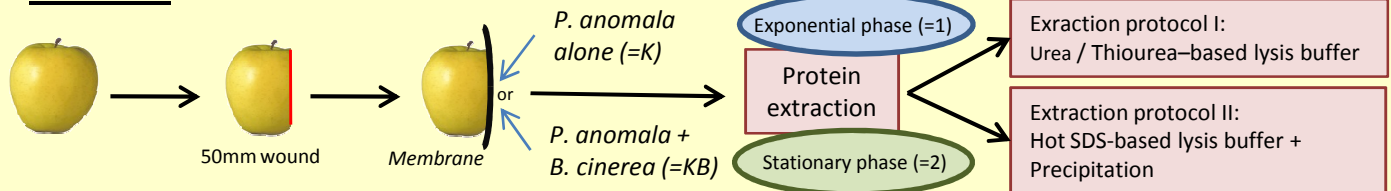
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## Objective

To develop an effective protein extraction protocol designed for *P. anomala* proteome analysis by 2-D electrophoresis.

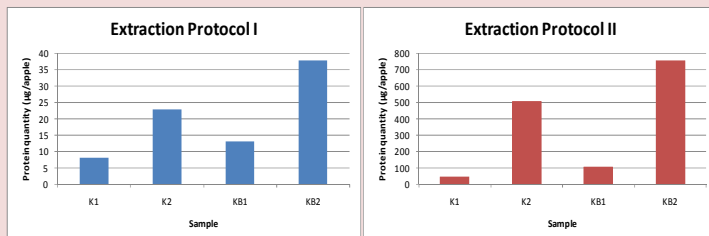
## Method



## Results

### Protein extraction yield

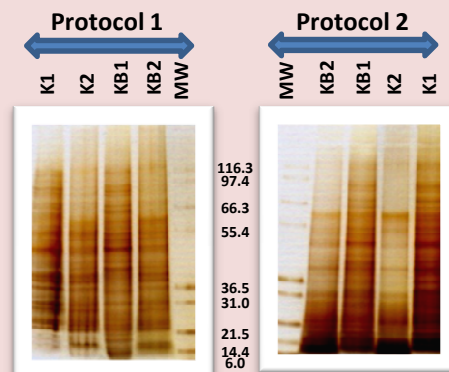
Using the RC-DC kit Biorad



Prot. II → higher protein quantity

### 1D Electrophoresis

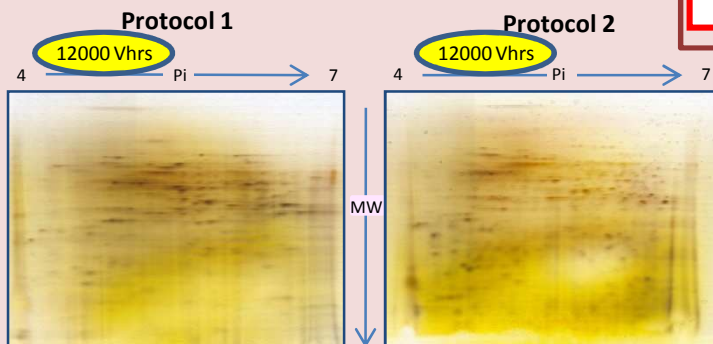
Using SDS-PAGE 4-12% : 1µg of proteins loaded



- Prot. I → More high molecular weight proteins
- Exponential phase → More bands

### 2D Electrophoresis

Using Iso-Electro-Focalisation + SDS-PAGE 12% :  
5µg of proteins loaded



• High background intensity

- Prot. II → Higher resolution
- Prot. II → Lesser streaking

## Conclusion

SDS-based protocol offers a higher protein quantity and a higher 2D-gels quality. It could be used to study the *P. anomala* modes of action against *B. cinerea* on apple fruits.



The IEF protocol must be improved to obtain a better 2D-gel quality.