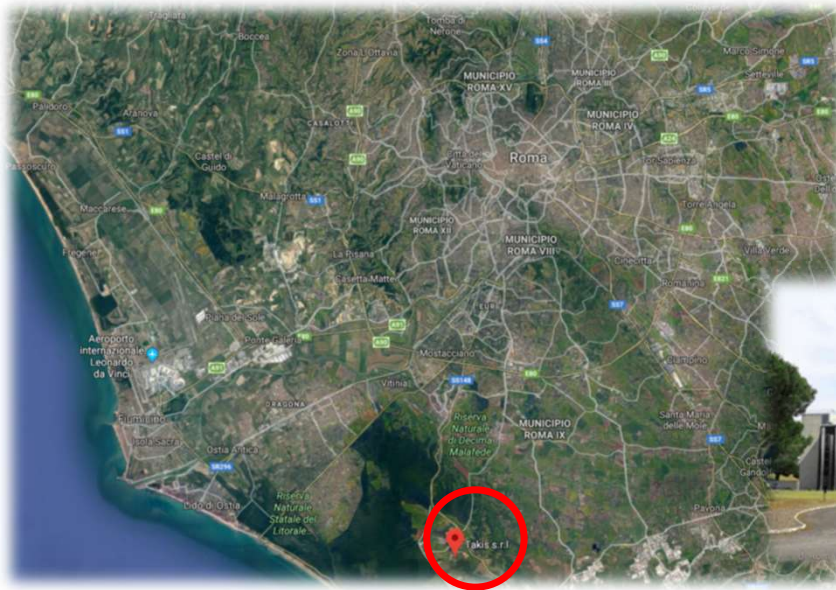




# ABOUT TAKIS

- Takis is a Biotechnology company located in Rome with a long experience in drug discovery and cancer research.



- Recently, Takis extended their scientific expertise by creating the protein production facility.

<http://www.takisbiotech.it/index.php/en/>



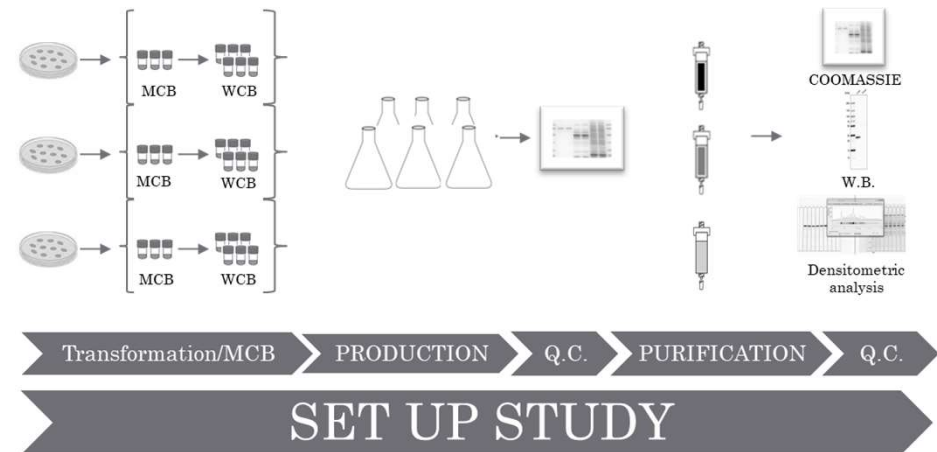
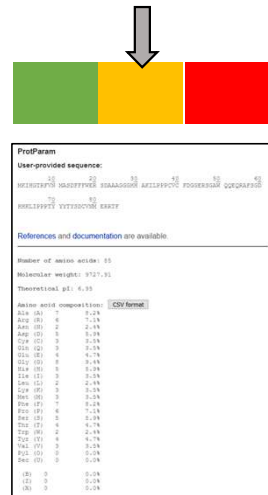
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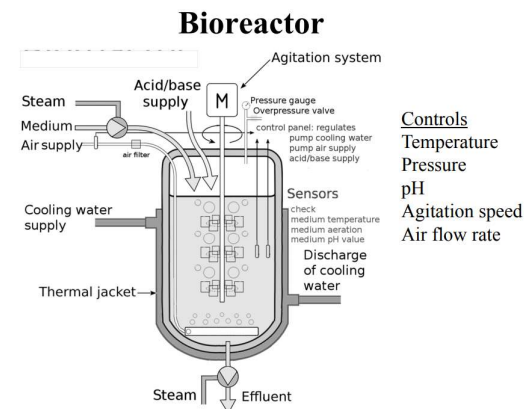
*L<sub>15</sub>* 

- The Protein Production facility (PPF) gives support to internal research groups and is involved in several scientific projects.

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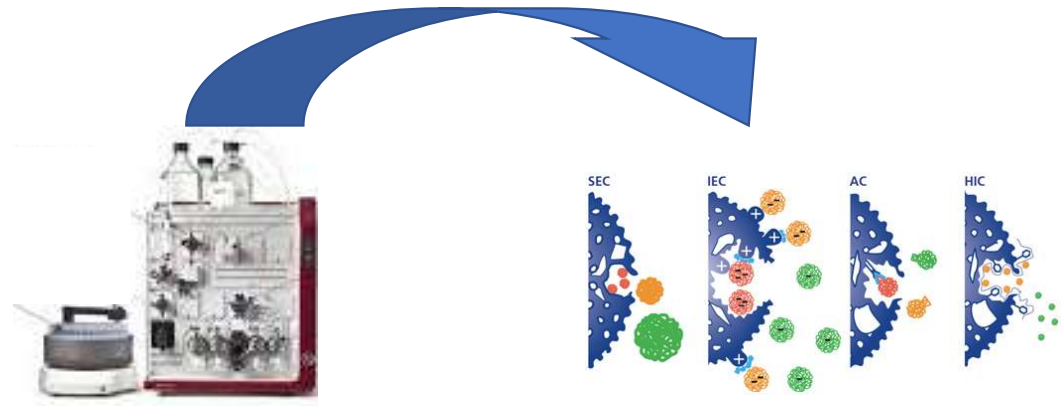
**Set-up studies:** evaluation and design of DNA constructs; screening in different E.Coli strains; Master Cell Bank and Working Cell Bank protocol and optimization of culturing conditions.



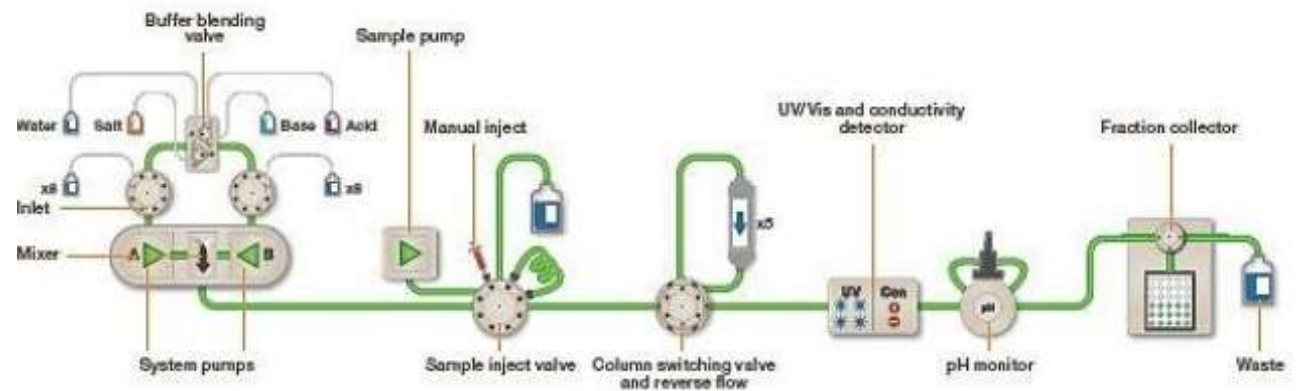
**Pre-industrial optimization process** : fermentation strategies for HCDC by the pH-stat and/or DO-stat; customized media for optimal growing/expression conditions.

# PROTEIN PRODUCTION FACILITY

- Wide portfolio of purification techniques (Affinity chromatography, IEX, SEC, HIC, etc...).



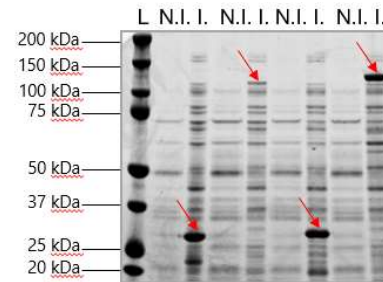
**Set-up studies:** optimization of purification methods.



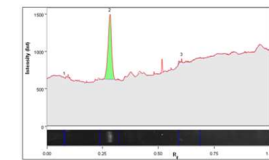
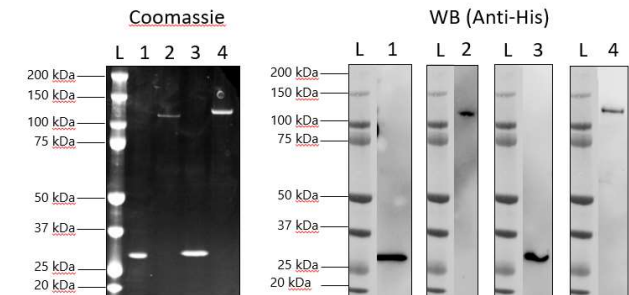
**Standard purification process**

# PROTEIN PRODUCTION FACILITY

- Quality controls which include SDS-PAGE, Western blot analysis, densitometry and mass-spec analysis.

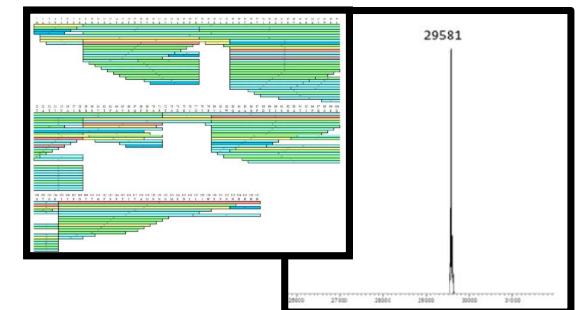


**Predictive SDS-PAGE:** Comparison of induced/not-induced conditions and soluble and insoluble fractions.  
L=ladder; N.I. = Not induced; I=Induced.

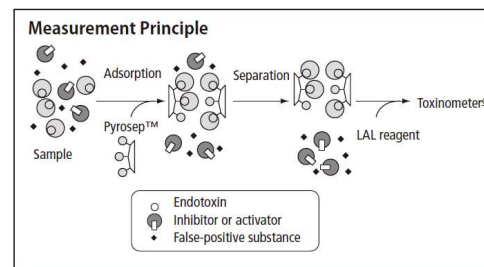


Band No.	Band Label	Mol. Wt. (kDa)	Relative Front.	Adj. Volume (µl)	Abs. Quant.	Std. Quant.	Band No.	Band No.
1		N/A	0.076	100.000	N/A	N/A	1	0.0
2		N/A	0.001	2.781 (44)	0.000	N/A	2	78.4
3		N/A	0.004	89.000 (2,245.071)	0.000	N/A	3	2.0

**SDS page, Western blot and densitometric analysis**



**Mass-spec analysis:** characterization of proteins by mass



**LAL test:** Analysis to quantify endotoxin levels.

## PROTEIN PRODUCTION FACILITY

- We have recently extended our portfolio to insect cell system.



**Baculovirus system:** We offer small-scale expression of recombinant proteins in *Sf21* and *High-Five™* cells.



We have recently joined the Protein Production and Purification Partnership in Europe (P4EU) to improve exchange of information and to stay always up-to-date with the latest discoveries in the protein field

<https://p4eu.org/>

# WHAT WE DO AND OFFER

**Set-up studies:** evaluation and design of DNA constructs; screening in different *E.Coli strains*; optimization of culturing conditions and purification methods (Affinity chromatography, IEX, SEC, HIC).

**Protein production:** small ( $\mu\text{g}$  from 100 ml of media) and large-scale (mg from up to 5 L of media) expression and purification of recombinant proteins in *E.Coli*.

**Baculovirus system:** we have recently extended our portfolio to insect cells. We offer small-scale expression of recombinant proteins in *Sf21* and *High-Five*<sup>™</sup> cells using *Bac-to-Bac* system.

**Quality controls:** we perform quality protein controls which include SDS-PAGE and Western blot analysis, densitometry and mass-spec analysis.

**Pre-industrial optimization process:** fermentation strategies for HCDC by the pH-stat and/or DO-stat; customized media for optimal growing/expression conditions.



# The Team

<http://www.takisbiotech.it/index.php/en/protein-production-facility>

Mariano Maffei, PhD  
Senior Scientist

International experienced protein biochemist with strong expertise in structural and molecular biology



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Luigi Fedele  
Scientist

Biotechnologist with long experience in the pharma sector, process optimization and chromatography techniques



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