

# ISS: Integrated Secretion Solutions: Boosting Therapeutic Protein Production

Despite a growing demand of secreted protein biopharmaceuticals, their production remains a key bottleneck that hampers current drug discovery efforts.

The *Integrated Secretion Solution (ISS)* technology of University of Helsinki now enables rapid optimization of therapeutic protein production for companies struggling to establish efficient production systems. Instead of the current timeline of months or even years for developing efficient protein production systems, the ISS approach achieves production optimization in mere weeks, critically reducing development cost. Other benefits of ISS compared to conventional optimization methods include higher production yields, and importantly, the opportunity to carry out previously impossible projects and targets.

## BENEFITS

- Streamlines and speeds up optimization of therapeutic protein production.
- Increases the yield of the target protein.
- Allows continuation of promising projects that would have otherwise been terminated due to insufficient or irreproducible production levels of the target protein.
- Enables development of novel therapies that rely on difficult to produce proteins.
- Fully compatible with current standard protein production pipelines and does not require adaptations to existing production methods.

## SEARCHING FOR

This project is seeking companies that are struggling to produce promising therapeutic protein efficiently and at high yield.

- Development partner
- Commercial partner
- Licensing
- Seeking investment

## IPR STATUS

- Patent application filed in 2021

Batch  
2020

<https://www2.helsinki.fi/en/researchgroups/proteostasis-and-chemical-biology>

## Project leader

**Ville Paavilainen,**  
PhD, Group leader, Inventor  
Institute of Biotechnology  
University of Helsinki  
ville.paavilainen@helsinki.fi

## ISS Team:

**Katja Rosti,** PhD, Commercial Champion  
**Juho Kelloso,** PhD, R&D specialist, co-inventor  
**Rahul Nanekar,** PhD, R&D specialist  
**Maryna Green,** PhD, business liaison  
**Paula Collin,** technician  
**Zane Dekere,** technician  
**Mila Hyytinen,** PhD, project coordinator  
**Julia Lindholm,** MSc student

**SPARK**  
—FINLAND