

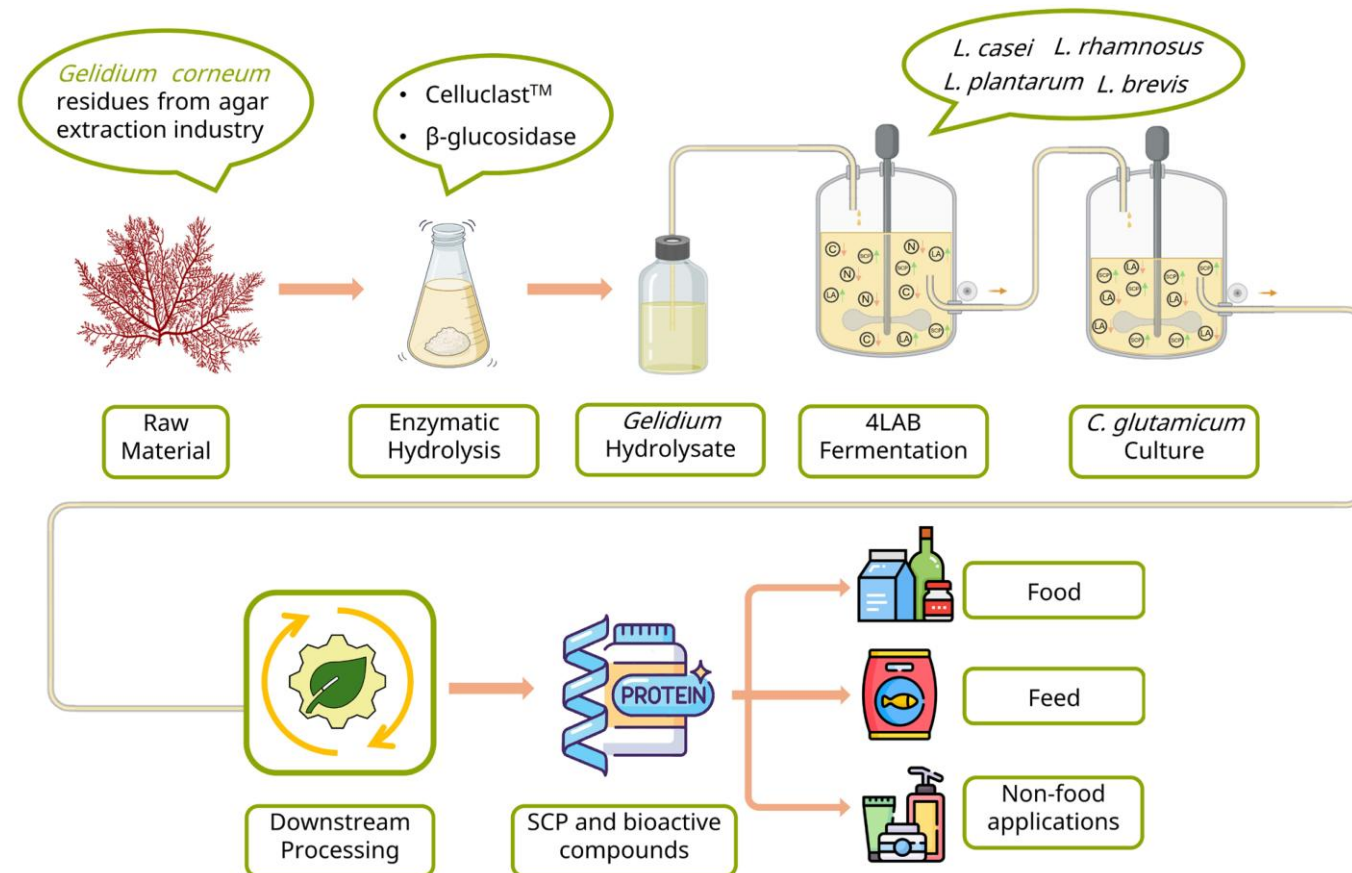
Lactobacilli consortium and *Corynebacterium glutamicum* sequential cultivation to produce single cell protein (SCP) from seaweed by-products

Diogo J. Marques, M. Teresa Cesário, Helena M. Pinheiro, Carla Motta, Carla Pires and Marília Mateus

Background and Motivation

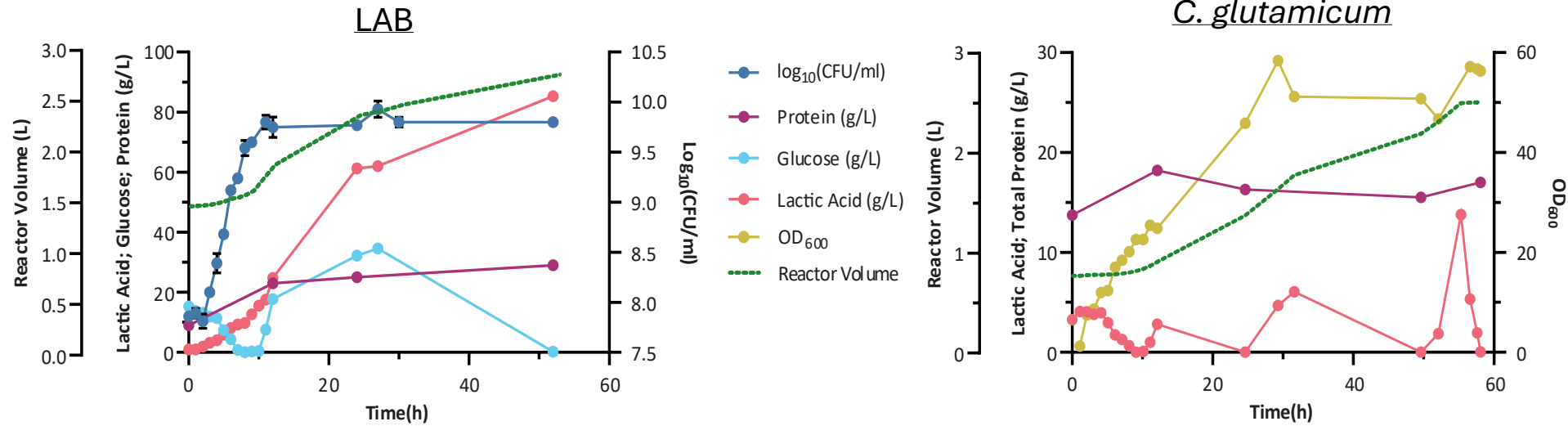
- Utilize marine by-products as fermentation raw-materials to enhance SCP yields and valorize residual biomasses.
- Sequential fermentation with *Lactobacilli* (LAB) and *Corynebacterium glutamicum* offers a novel approach to optimize biomass and protein production.

Methodology



Results and Discussion

Sequential Fermentation



Protein Quality Assessment

Material	Protein Content	Protein Bioaccessibility	ΣEAA	ΣNEAA	Protein Score
	g/100 gDW	%	g/100 g _{protein}		% (Limiting AA)
Gelidium Residues	36.0 ± 1.2	28.2 ± 4.6	53.0 ± 1.4	62.4 ± 1.4	37 (Val)
4LAB Pellet	37.4 ± 0.7	62.9 ± 6.0	53.4 ± 0.9	62.1 ± 0.9	100
<i>C. glutamicum</i> whole broth	32.8 ± 0.8	71.7 ± 8.0	47.9 ± 1.6	67.4 ± 1.7	88 (Lys)

Both resulting products present high protein bioaccessibility and good protein quality according to Food and Agriculture Organization (FAO) standards.