

# Production, characterization and ultrafiltration of bioactive extracts derived from the microalgae *Scenedesmus obliquus*

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## Introduction

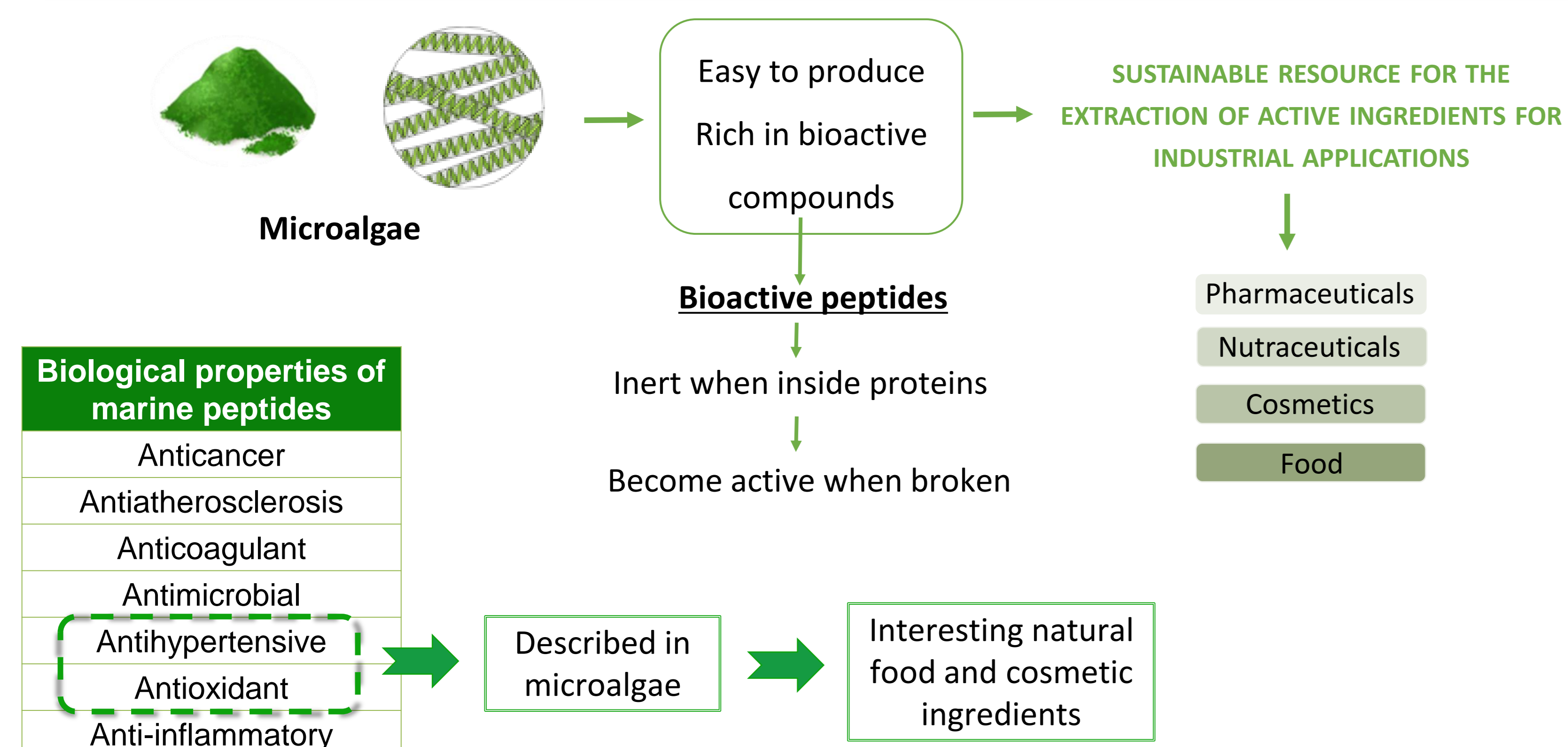


Figure 1: Scheme of the microalgae advantages and bioactive properties of marine derived peptides.

## Objectives

In this work the microalgae *Scenedesmus obliquus* was used with the goal of producing water soluble extracts rich in proteins and bioactive peptides by enzymatic hydrolysis (one of the most described methods for producing peptides *in vitro*).

## Methodology

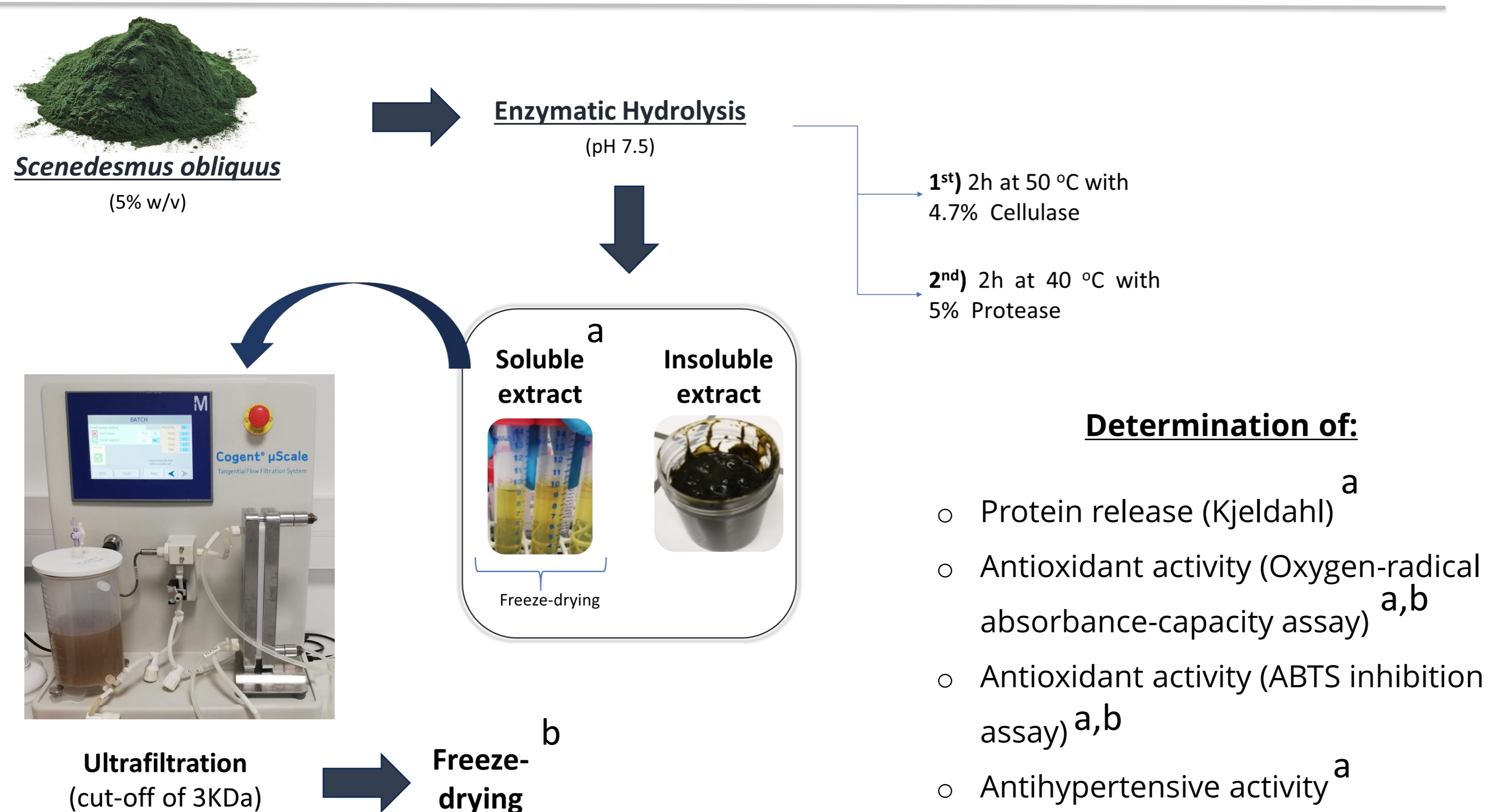


Figure 2: Scheme of the extraction method used for the microalgae *Scenedesmus obliquus*.

## Results and discussion

Table 1: Nutritional composition of the tested microalgae (intact).

Nutrients	Composition (g/100g)
Proteins	45.7
Lipids	9.1
Mineral matter	15.6
Fiber	15.8

Table 2: Obtained results for the full extract (non-fractionated).

Evaluated characteristics	Obtained results
% Protein / dry weight	54 ± 1
Antioxidant activity (ORAC) (μmol TE/g extract)	572 ± 24
Antioxidant activity (ABTS) (μmol TE/g extract)	80 ± 3
Anti-hypertensive activity (10 mg / mL)	253 ± 52

Table 3: Obtained results for the <3KDa extract.

Evaluated characteristics	Obtained results
Antioxidant activity (ORAC) (μmol TE/g extract)	563 ± 1
Antioxidant activity (ABTS) (μmol TE/g extract)	62 ± 5

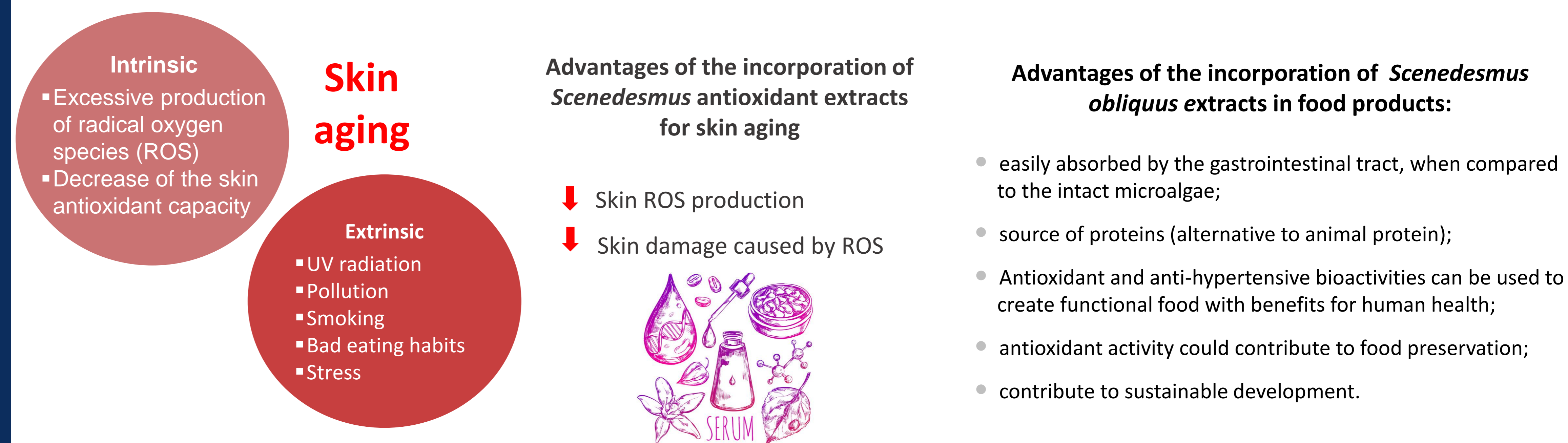
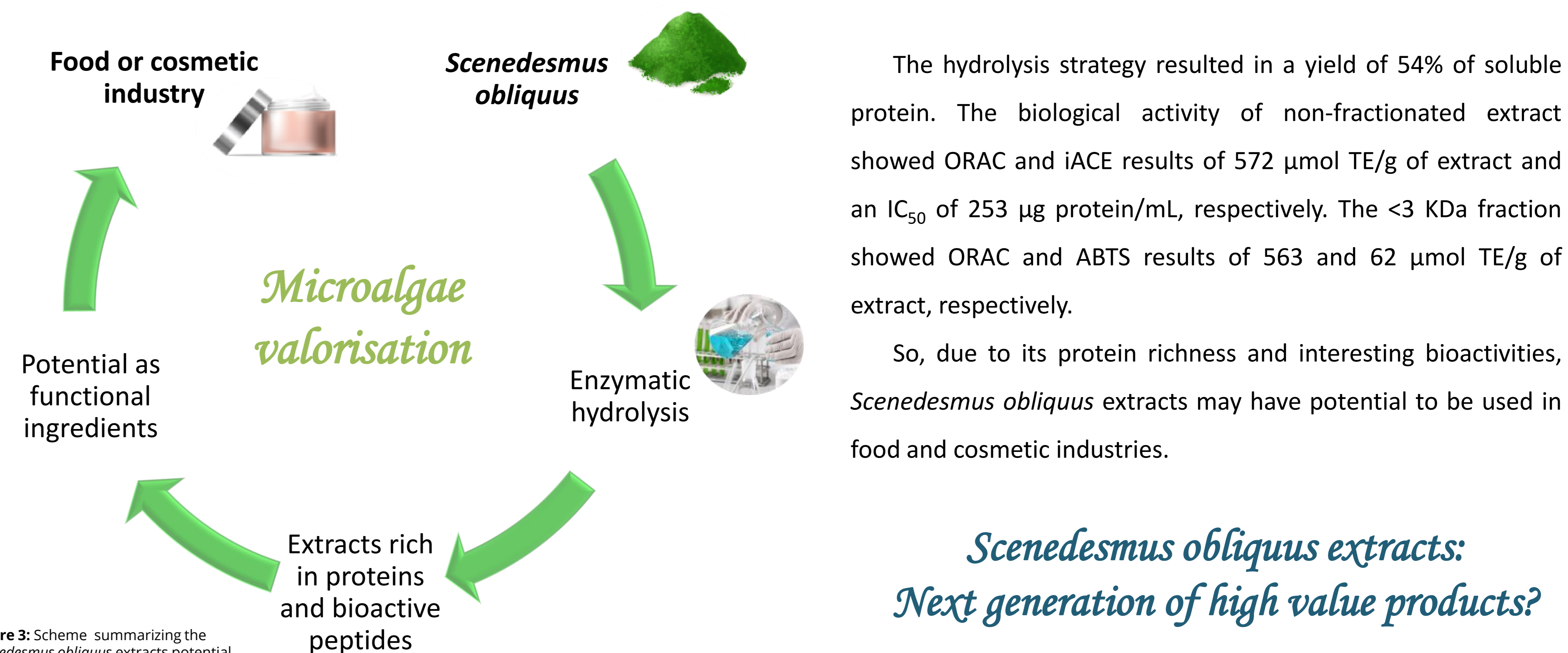


Figure 3: Scheme summarizing the *Scenedesmus obliquus* extracts potential.

## Conclusion



*Scenedesmus obliquus* extracts:  
Next generation of high value products?