

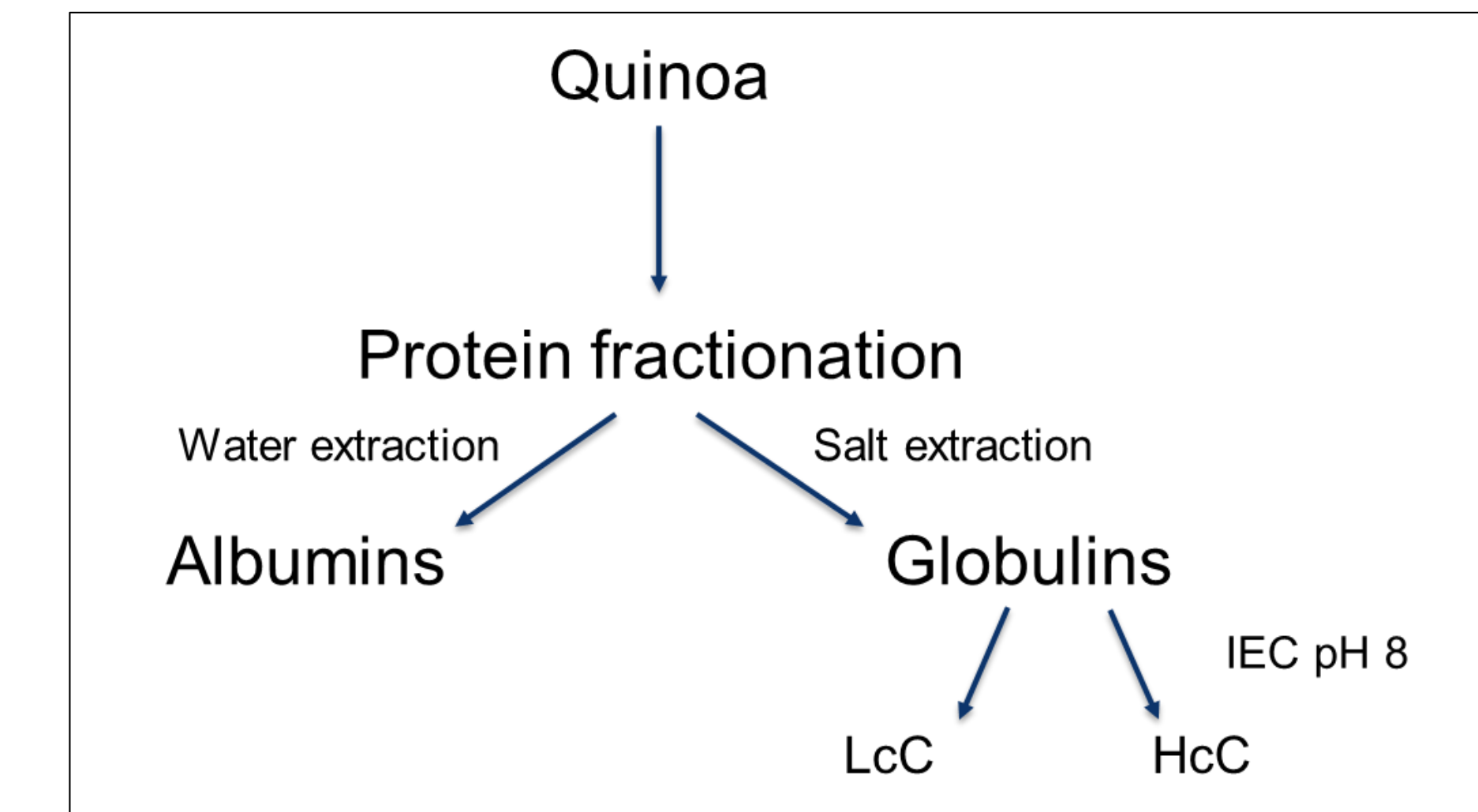


# ASSESSMENT OF CHENOPODIN ANTI-INFLAMMATORY ACTIVITY FOR THE VALORIZATION OF QUINOA BY-PRODUCTS RICH IN PROTEINS

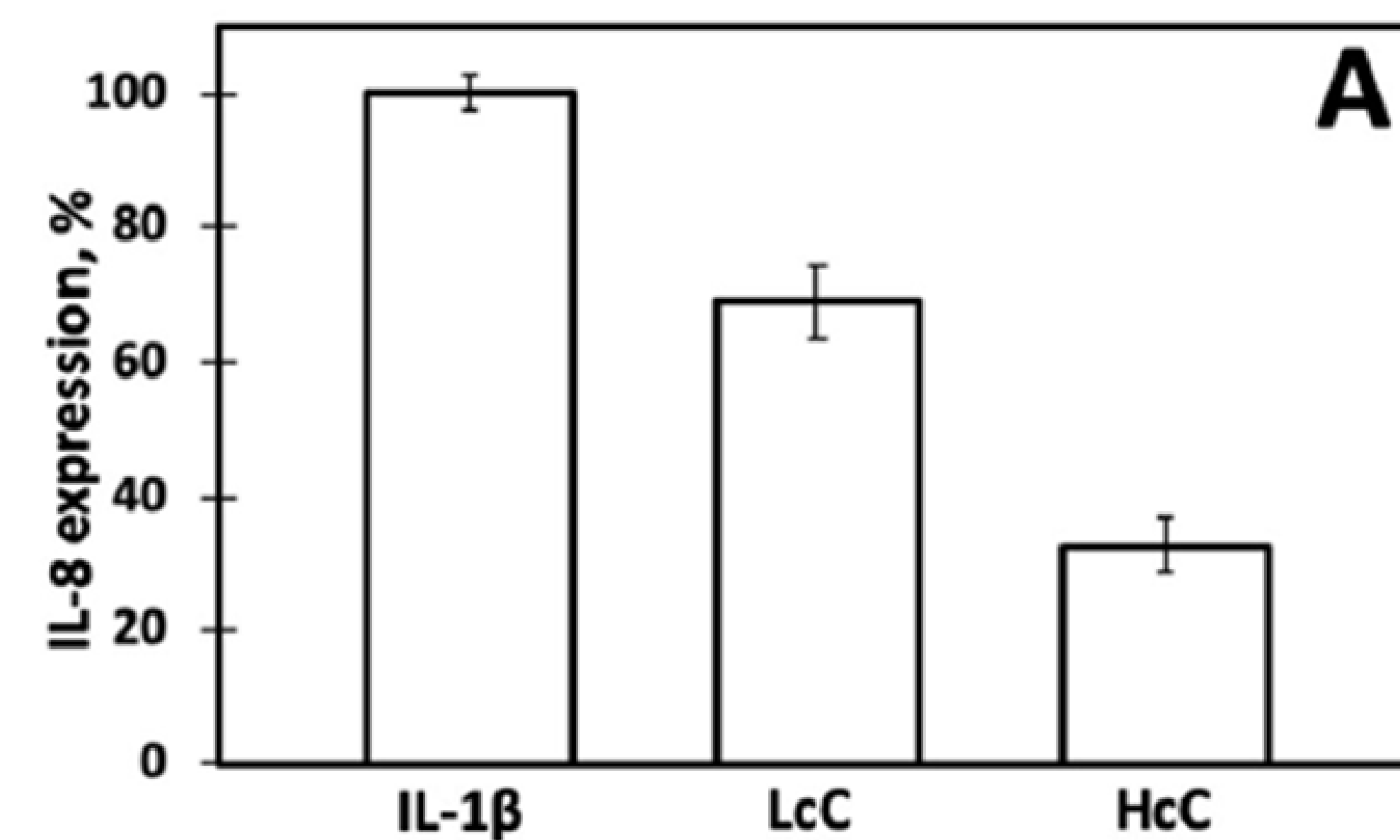
Giuditta C. Heinzl, Stefano De Benedetti, Jessica Capraro and Alessio Scarafoni  
Department of Food, Environmental and Nutritional Sciences, University of Milan  
(giuditta.heinzl@unimi.it)



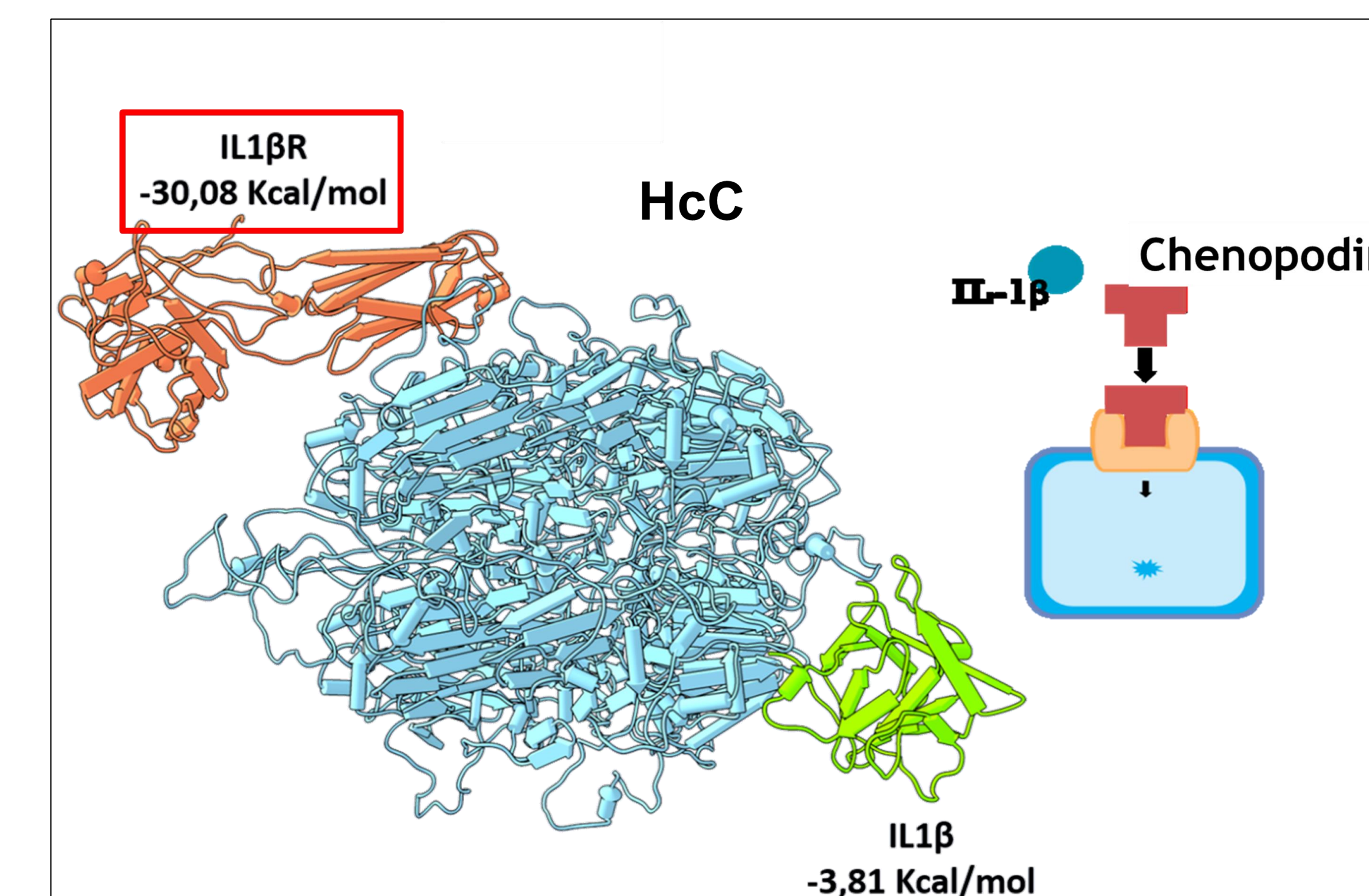
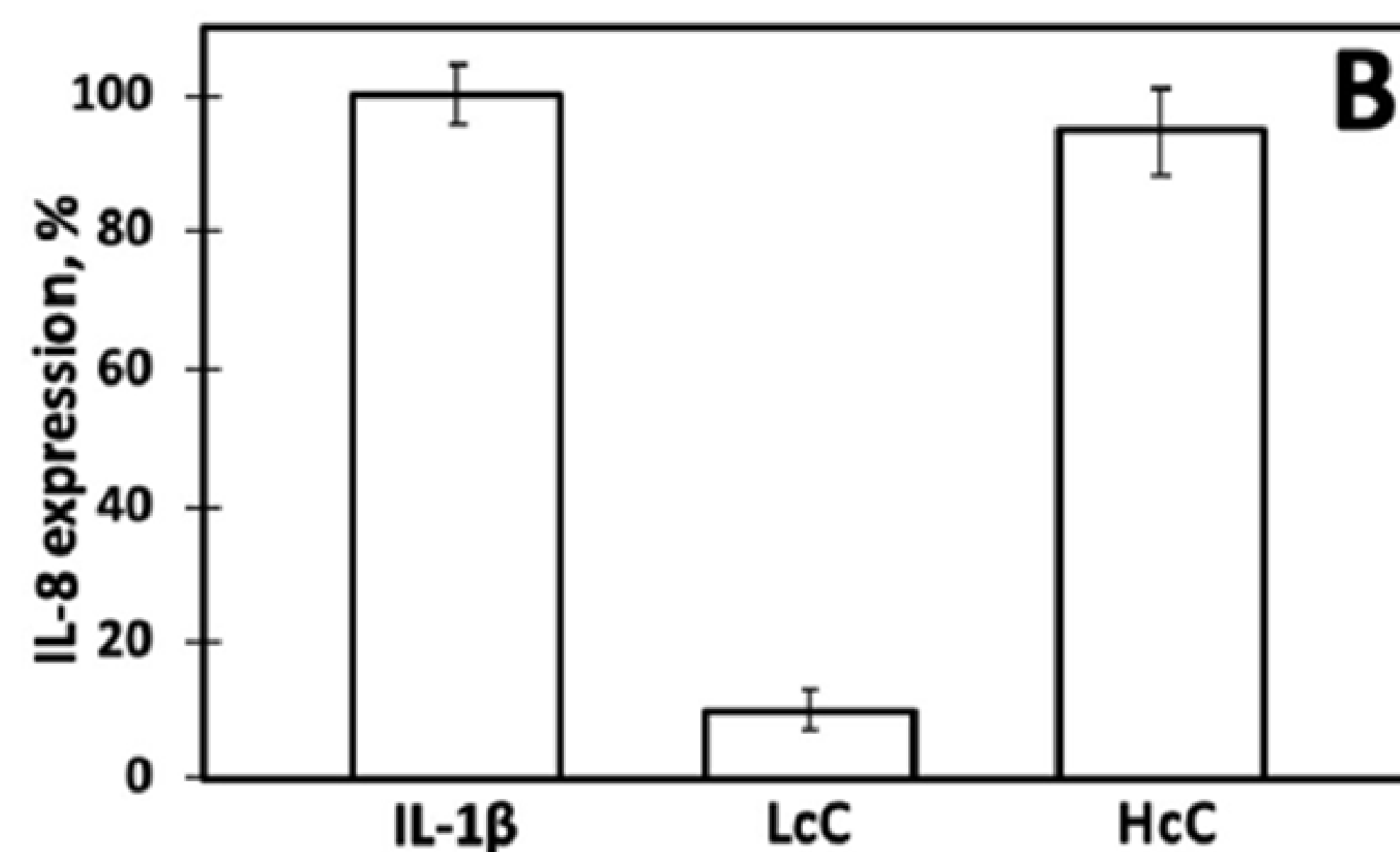
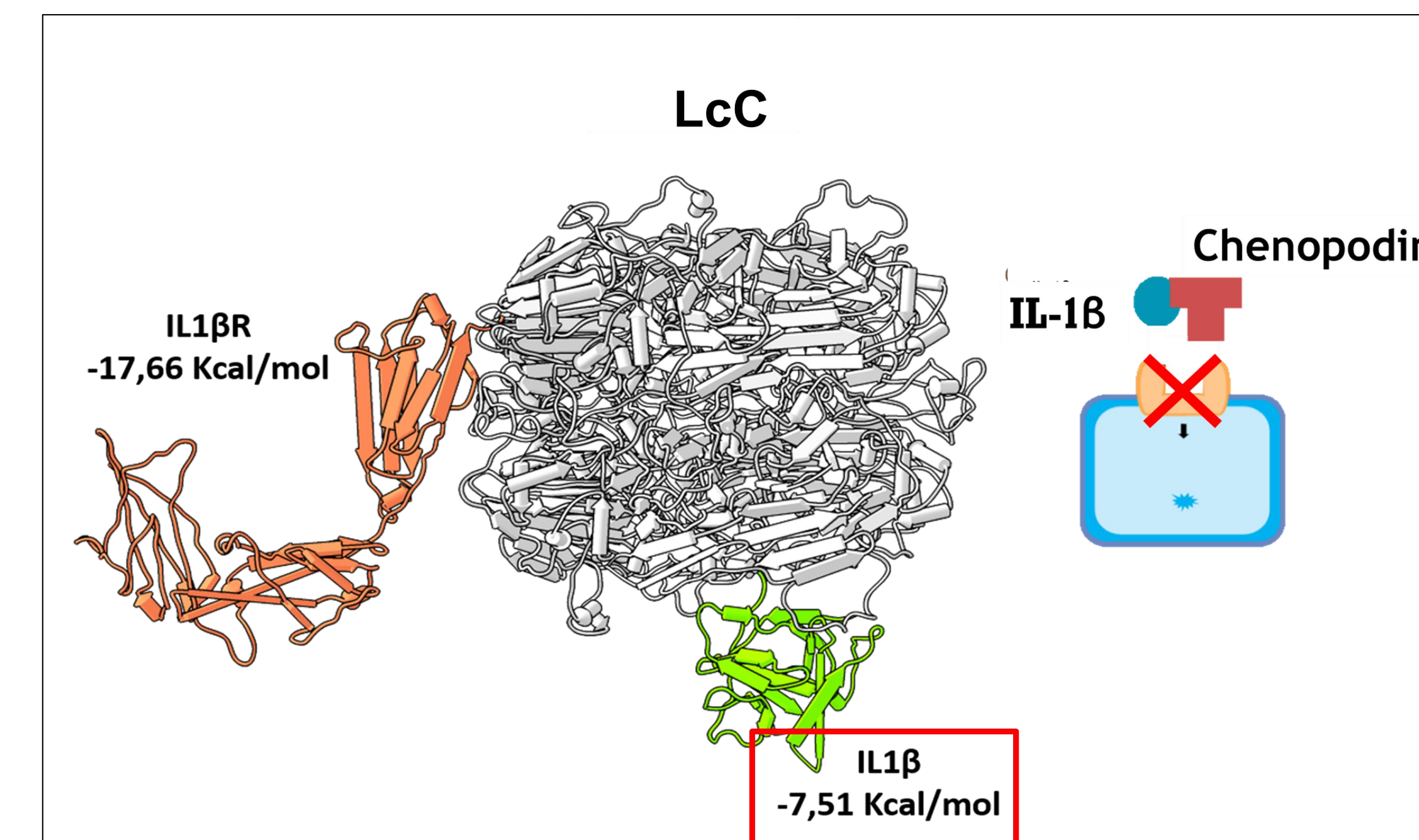
The **aim** of this study was to lay the basis for possible uses of the discarded protein fraction from quinoa starch industry as source for bioactive molecules. Quinoa seeds contain 12-19% of proteins. Two different isoforms were identified and separated: low charge chenopodin (LcC) and high charge chenopodin (HcC).



**LcC and HcC show potential anti-inflammatory activities in Caco-2 cells elicited using IL-1 $\beta$**



**LcC binds preferably to IL-1 $\beta$  while HcC to the receptor IL-1 $\beta$ R**



Chenopodins could mimic the agonist effect exerted by Anakinra, a recombinant form of IL-1RA approved for treatment of autoinflammatory disorders. Chenopodin shares with Anakinra:

- **3 regions** with sequence similarity (A, B and C)
- **5 conserved AA** crucial for interaction with IL-1R

