

PARTIAL PURIFICATION AND CHARACTERIZATION BY FLUORIMETRY OF LACTOFERRIN OF GOATS

Introduction: Lactoferrin (Lf) is a whey protein with a molecular size of about 80 KDa, being found in milk and to a lesser extent in bile and tears. Lf is a cationic molecule with an isoelectric point (pI) around 8.0 to 8.5 having positive charges on its surface which is involved on its biological activity. Lf is a multifunctional protein, very important in the innate immunity system, because it can respond in various ways to physiological changes, present in several studies as preventive and therapeutic treatment, presenting antimicrobial, antifungal, immunomodulatory, antitumor, antiviral activities, as well as neutralization of bioactive substances. This work aimed to purify and characterize lactoferrin from goat milk, monitoring purification by spectroscopy techniques. **Materials and methods:** Skimmed milk was obtained by separating the fat from goat milk by centrifugation and subsequent acidified with HCl 0.1 M to pH 4,6 for the casein removal. The acid serum was neutralized with NaOH 0.1 M up to pH 6.8 and then centrifuged (10000 x g, 4° C, 30 min). The supernatant was submitted to saline precipitation profiles of 0-20%, 20-40%, 40-60% and 60-80% saturation of $(\text{NH}_4)_2\text{SO}_4$. Fluorimetric analyses salt fractions were performed under excitation length conditions at 290 nm and emission wavelengths between 300-550 nm. **Results and discussions:** The saline precipitation profiles of 0-20%, 20-40%, 40-60% and 60-80% saturation of $(\text{NH}_4)_2\text{SO}_4$ also presented the spectrum of fluorescence characteristic of lactoferrin. However, the profile of the precipitate resuspendido of 40-60% showed the spectrum of fluorescence extinction characteristic of lactoferrin with higher protein concentration. **Conclusion:** In the present study, it was possible to partially purify lactoferrin caprine using saline precipitations with saturation with $(\text{NH}_4)_2\text{SO}_4$ being monitored by fluorimetry.