Purification and Characterization of the S100A7 Human Protein (psoriasin) expressed in *Escherichia coli* and Polyclonal Antibody Production

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The overexpression of S100A7 (psoriasin), a small calcium binding protein, has been associated with the development of psoriasis and different types of epithelial carcinomas. We describe the cloning of S100A7 coding-sequence of 306 bp of mRNA isolated from a head and neck tumor which corresponds to 11.5 kDa protein (rhS100A7). The rhS100A7 expression was obtained with pAE vector introduced into *E. coli* BL21::DE3 as a protein containing a His-*tag* sequence. It was purified as a denatured protein by affinity chromatography using Ni-NTA resin. The recombinant protein was analyzed by SDS-Page and characterized by mass spectrometry. Polyclonal antibody against rhS100A7 was produced in rabbit and was characterized by indirect ELISA, *Western blotting* and immunohistochemistry. The anti-S100A7 was used for the immunohistochemical localization of S100A7 in histological preparations of oropharyngea of squamous cell carcinoma. The anti-S100A7 was specific and reacted in tissue at 1:3.000 and also recognizes only the recombinant S100A7 protein in crude extracts of *E. coli* BL21::DE3. Anti-S100A7 will be used in large scale screening of human squamous cell cancer. Supported by FAPESP, FINEP and CNPq.