**CHEMICAL CHARACTERIZATION OF THE LICHEN-SYMBIONT MICROALGA *Asterochloris erici* AND STUDY OF ITS CYTOSTATIC EFFECT ON THE L929 MURINE FIBROSARCOMA CELL LINE**

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New resources of food, pharmaceuticals or biotechnological products are needed. The huge biodiversity of aero-terrestrial lichen-symbiont microalgae remains unexplored. Viability of these for human consumption demands the demonstration of the absence of toxic effects. *In vitro* biocompatibility of crude homogenates of axenic microalga Asterochloris erici, symbiotic in the lichen *Cladonia cristatella*, was analyzed after treatment of cultured L929 fibroblasts with different doses of microalgal homogenates. The results show that crude homogenates of *A. erici* do not induce fibroblast cytotoxicity but seem to have some cytostatic effect inducing slight cell cycle alterations and intracellular reactive oxygen species increase at the highest dose. Carotenoid analysis demonstrates high content of lutein, a xanthophyll with antioxidant and cytostatic properties *in vivo*. These findings confirm that *Asterochloris erici* can be considered suitable for the development of alimentary or pharmaceutical applications. The cytostatic effects should be further investigated for antitumor agents. This study was funded by grants from: the Comunidad de Madrid (project S2009/MAT-1472); the Ministerio de Economía y Competitividad, MINECO and FEDER: MAT2013-43299-R and CGL2016-79158-P); PROMETEO/2017/039 Excellence in Research (Generalitat Valenciana, Spain). M.C. Matesanz is greatly indebted to Spanish Ministry of Education (MEC) for predoctoral fellowship.