Abstract

This study was designed to evaluate the effect of mycoplasma contamination on acid hydrolase activity and the action of the mycoplasma removal agent (MRA), in cultures of human fibroblasts from individuals with lysosomal diseases. For this purpose, we measured the activity of the β-galactosidase, arylsulphatase B (ASB), hexosaminidase A and α-glucosidase enzymes. The activity of the above-mentioned enzymes in fibroblasts contaminated by mycoplasma was measured before and after the addition of the MRA. The results were then compared to the enzymatic activity in contamination-free cultures. Only the ASB enzyme showed significant alteration in activity both in the presence of mycoplasma and MRA. The remaining enzymes did not suffer significant interference by the presence of the two agents. Of the four enzymes tested, three did not suffer significant alterations by the presence of the mycoplasma nor from the MRA. However, the activity measured in the ASB enzyme increased significantly in the presence of mycoplasma and MRA and could lead to a doubtful diagnosis. Therefore, we suggest that contamination should be prevented by using aseptic techniques as well as the MRA in those fibroblast cultures that cannot be discarded.

Keywords

Mycoplasma, fibroblast culture, lysosomal hydrolases, lysosomal diseases.