

MUTATION ANALYSIS IN SOUTH AMERICAN PATIENTS WITH MUCOPOLYSACCHARIDOSIS TYPE I

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Mucopolysaccharidosis type I (MPS I) is a lysosomal storage disorder due to the deficiency of α -L-iduronidase (IDUA). Severely affected patients show coarse faces, hepatosplenomegaly and mental retardation. Mild cases have facial features, joint stiffness, short stature but no CNS involvement. The gene encoding IDUA was cloned in 1990 and more than 55 disease-causing mutations have been described so far. Mutation frequency varies worldwide but W402X is the most frequent mutation found in European patients.

A group of 56 MPS I patients, 25 from Argentina and 31 from Brazil, were genotyped. By analyzing ten recurrent mutations we were able to define 76% of the Argentinean alleles and 60% of the genotypes. For the Brazilian group, 62% of the alleles and 45% of the genotypes were assigned by the analysis of these same ten mutations. Sequencing of Brazilian patients led to the discovery of 13 new mutations and 4 new ones were found in Argentineans.

The two most frequent mutations in both populations were W402X and P533R. The number of alleles bearing private mutations in Argentinean patients was 3 out of 50 and among the Brazilians, 16 out of 58. Such genetic heterogeneity is a concern when analyzing patients from miscigenated populations, such as South American countries.