

ABSTRACT**MUTEINS OF THE PYRROLINE-5-CARBOXYLATE REDUCTASE 1**

The invention relates to muteins of the pyrroline-5-carboxylate reductase 1 (PYCR1), to nucleic acid molecules comprising a nucleotide sequence encoding such muteins, to methods of determining in a subject a predisposition of having an age related disorder associated with PYCR1, to methods of identifying a compound capable of modifying the expression of PYCR1 and methods of treating a subject having an age-related disorder associated with PYCR1. The invention further relates to a genetically modified animal and a method of modifying the expression of the PYCR1 gene in an animal.

Fig. 6