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(54) Title: USES AND METHODS FOR SULFATING A SUBSTRATE WITH A MUTATED ARYLSULFOTRANSFERASE

(57) Abstract: The invention relates to uses and methods implementing a non-naturally occurring mutated arylsulfotransferase comprising (i) an amino acid substitution in at least one amino acid position selected among positions 6, 7, 8, 9, 11, 17, 20, 33, 62, 97, 138, 195, 236, 239, 244, 263, and combinations thereof, wherein the position is relative to the amino acids sequence of rat arylsulfotransferase IV SEQ ID NO: 1, and (ii) an amino acid sequence having at least 60% sequence identity with amino acids sequence SEQ ID NO: 1 for sulfating a substrate. The mutated arylsulfotransferase may have a sulfotransferase activity for converting adenosine 3',5'-bisphosphate (PAP) into 3'-phosphoadenosine-5'-phosphosulfate (PAPS) enhanced compared to the wild-type enzyme.



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