

ABSTRACT

Provided is a method for targeted editing of target RNA containing a G to A mutation in a USH2A gene transcript based on LEAPER technology, comprising: introducing a construct of an adenosine deaminase recruiting RNA (arRNA) for editing the target RNA or a construct encoding said arRNA into a cell, wherein the arRNA comprises a complementary RNA sequence that hybridizes to the target RNA, and wherein the arRNA is capable of recruiting adenosine deaminase acting on RNA (ADAR), so that the target adenosine in the target RNA is deaminated, thereby performing in vivo editing of the base from A to I on RNA safely and effectively, repairing a pathogenic mutation site, and achieving the purpose of treating disease such as Usher syndrome.