MODIFIED LIGAND-GATED ION CHANNELS AND METHODS OF USE

ABSTRACT

This document relates to materials and methods for modulating ligand gated ion channel (LGIC) activity. For example, modified LGICs including at least one LGIC subunit having a modified ligand binding domain (LBD) and/or a modified ion pore domain (IPD) are provided. Also provided are exogenous LGIC ligands that can bind to and activate the modified LGIC, as well as methods of modulating ion transport across the membrane of a cell of a mammal, methods of modulating the excitability of a cell in a mammal, and methods of treating a mammal having a channelopathy.

Fig. 1A