Development of a novel concatemer technology using Kv1.1 homotetramer as a framework

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Kv1.1 is member of a larger group of potassium channel family. Kv1.1 is capable of forming both homo and hetero tetramers in vitro. Kv1.1 consists of four subunits and each subunit are assembled independently of each other. This means that researchers have very little control over the stoichiometry and arrangement of Kv1.1 channels that have a mixture of mutant and wild type subunits. We have developed a novel concatemer technology that have physically linked four kv1.1 subunits using intentionally designed linkers on a pICDNA plasmid vector. As expression of the concatemer detected using immunoblotting and the functional characterization was performed using patch-clamp techniques. The development of this concatemer will ease the development of future hetero-concatemers that will provide insights about questions that were limited by.