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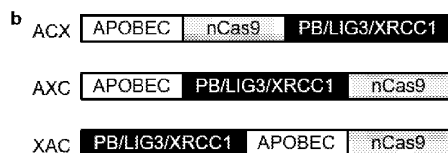


Figure 1

(57) Abstract: The present invention refers to a fusion protein or a protein complex comprising a DNA binding protein (DnaBP), a nucleobase modifying protein (NMP), and a Base Excision Repair associated protein (BERAP); wherein the fusion protein or protein complex does not comprise a Uracil binding protein or a catalytically active DNA polymerase. The invention is embodied by a fusion protein comprising a BERAP selected from XRCC1, DNA binding or lyase domain of DNA polymerase beta or DNA Ligase III (LIG3). Also, described herein are a method of replacing a cytosine with a guanine on a DNA strand in a cell and a method of treating a subject having or suspected of having a disease or disorder comprising one or more G>C mutations and/or one or more C>G mutations.

WO 2021/133261 A1