Editing of ciz1 Gene Responsible for Small Cell Lung Cancer Growth using CRISPR CAS Technology

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A method was described for the inhibition of lung cancer tumor growth based on the findings of a 2012 study which shows that mutations in ciz1 found in 98% of SCLC were responsible for cancer growth. SCLC cells both treated and untreated by a crispr cas technology which had edited the ciz1 gene in order to remove the second splice donor site in the gene responsible for the mutation. Results of treatment were viewed using quantitative real time PCR technology which showed a steady decrease in ciz1 gene expression in the SCLC treated cells, compared to the gene expression of the reference gene G6PD and the gene expression of the ciz1 in the untreated SCLC cells which held steady levels throughout the experiment. Since the inhibition of ciz1 in SCLC cells both in vitro and in vivo has been proven to stop tumor growth, the treatment of SCLC with crispr cas technology and an adeno associated virus carrying the donor ciz1 gene could be effective in stopping SCLC tumor growth.

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