



## Cure Of Cancer By using Hydroxyl Ion to reduce cell acidity

Muhammad Muaaz <sup>1</sup>

**Corresponding Author: Muhammad Muaaz, GENCEST (PVT.LTD)**

**Copy Right:** © 2021 Muhammad Muaaz, this is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

**Received Date: September 21, 2021**

**Published date: October 01, 2021**

### Introduction

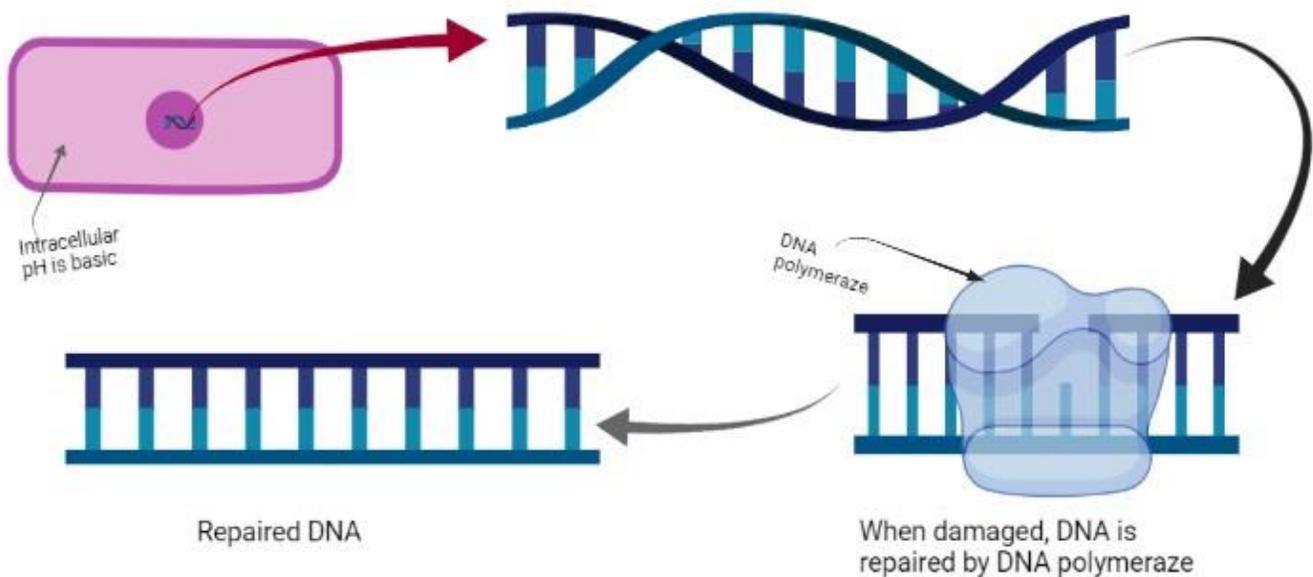
Cancer is the leading cause of death around the world. It is defined as uncontrollable division of cells in the body. Treatment of cancer is a broad area including surgery, radiations, medications, and other treatments to kill cancerous cells or stop metastasis of cancer. The major goal of surgery is to remove as much of the cancer as possible. It is not responsible for control of metastasis or treatment at microscopic level. In chemotherapy, the drugs used are lethal enough to cause death. Moreover, they can cause toxic side effects and the body develops resistance to chemical agents with time. Another treatment widely used is radiation therapy. It is no hidden fact that radiations themselves are harmful for the body. They not only affect the targeted area but also have harmful effects on surrounding tissues. Immunotherapies are more effective than chemotherapies, but they don't work for all patients. Overall response rates are about 15-20%. It may cause fatal allergic reactions in addition to fever, fatigue, nausea, vomiting and dizziness etc. Another treatment for cancer is gene therapy. Gene therapy has variety of risk factors including immune system response to viral gene products. Furthermore, it is highly expensive and is unaffordable by a citizen of average financial background. [1] [2] [3] [4]

Cancer can be linked to DNA repairing. When DNA is damaged an enzyme named DNA polymerase binds with the DNA and repair the damaged part. Basic pH is required for normal functionality of DNA polymerase enzyme. In the case of single strand damage, if intracellular pH becomes acidic, activity of

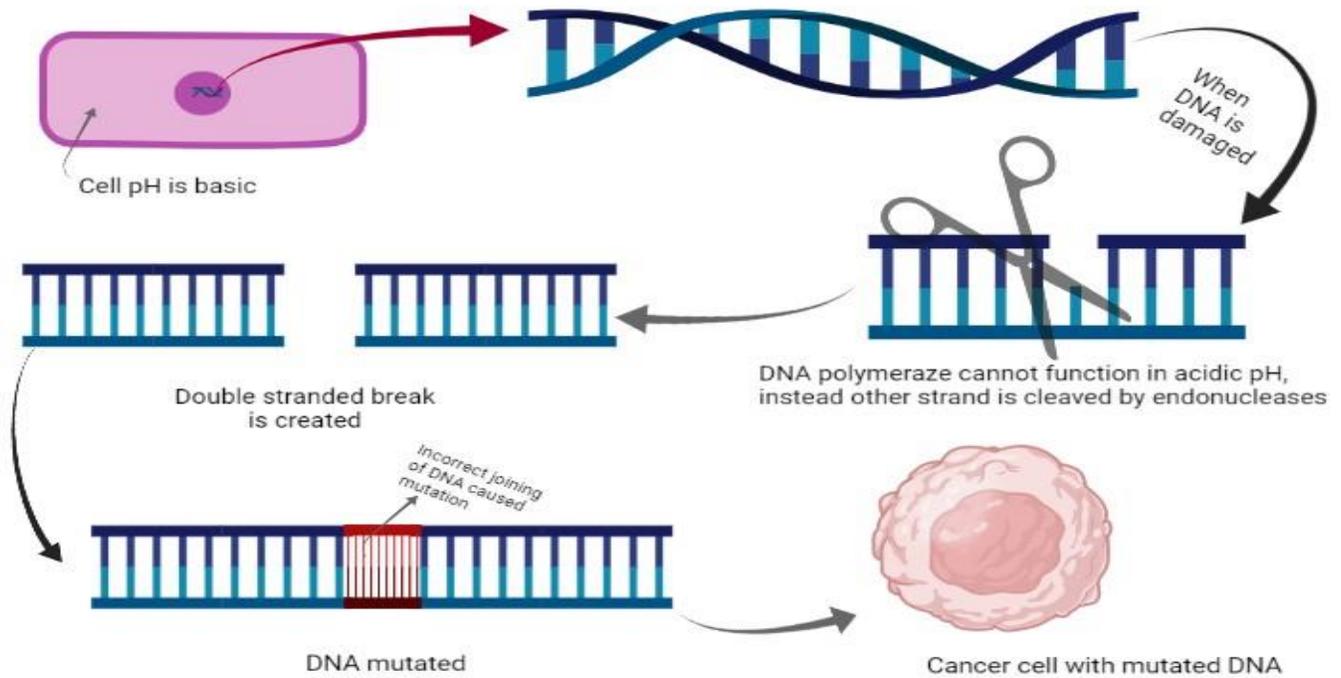
DNA polymerase will be inhibited causing endonucleases enzymes to form a double stranded break which would then be repaired by any of the three mechanisms: non-homologous end joining, microhomology mediated end-joining or homologous recombination. As a result, damaged DNA is not repaired correctly which leads to mutations particularly cancers and tumors. [5]

Studies show that reducing acidity can stop metastasis. [6] The concept of this research is to reduce acidity by transfer of OH<sup>-</sup> ions with the help of a solute carrier transporter in the basal layer of epithelium to treat carcinomas in general and particularly adenocarcinomas. The solute carrier to transport OH<sup>-</sup> ions in basal layer of epithelium may be coded by the following genes: **SLC6A6, SLC6A9, SLC7A1, SLC16A10, SLC38A2, SLC38A3, SLC38A4** and **SLC43A2**. OH<sup>-</sup> ions when transported into the cell will react with highly acidic medium containing H<sup>+</sup> ions forming salt and water, making the intracellular environment basic and favorable for DNA polymerase to work properly. Once DNA is repaired metastasis will be stopped and the tumor

can be removed by any means from the body as it will be a benign instead of a malignant. A great advantage of this medicine is that it would be cost effective and could be used by a patient of lower middle-class family also. Additionally, it will cause harmful effects only if given in high concentration. If concentration is controlled, it wont harm the cell or the body.



**Normal cell with normal DNA and repair process**

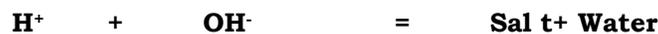


**Figure1.** Created with BioRender.com

**Explanation:**

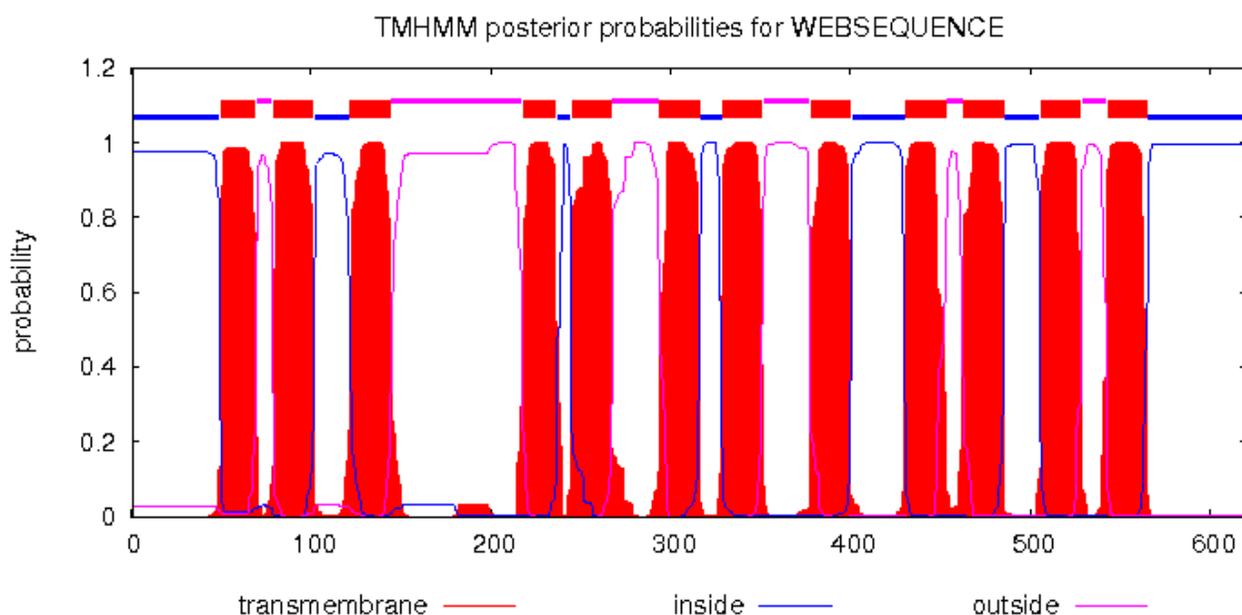
To verify the uptake of OH<sup>-</sup> ions into the cell, sodium and chloride-dependent taurine transporter was used. In order to utilize the transmembrane predator, amino acid sequence was taken from UNIPORT genome browser and was converted to protein. This protein contains 620 amino acids with pH of 7.0 (basic). PI of this protein is 6.35 which indicates positive charge. From the values shown by TNHMM predator (transmembrane predator) we can conclude that this SLC can transport OH<sup>-</sup> ions into the cell.

SLC6A6 is coated on OH<sup>-</sup> ions to make these ions hydrophobic so that they can pass easily across the membrane. Cell membrane contain negative charge and the SLC used (SLC616) contains positive charge which cause attraction between carrier and membrane. This will cause uptake of SLC into the membrane. After entering into the cell, solute carrier coating will be removed and OH<sup>-</sup> ions are free to move in the cell reacting with H<sup>+</sup> ions and neutralizing the acidic environment by forming salt and water.



**Conclusion:**

inside	1	49
TMhelix	50	69
outside	70	78
TMhelix	79	101
inside	102	121
TMhelix	122	144
outside	145	217
TMhelix	218	236
inside	237	244
TMhelix	245	267
outside	268	293
TMhelix	294	316
inside	317	328
TMhelix	329	351
outside	352	377
TMhelix	378	400
inside	401	430
TMhelix	431	453
outside	454	462
TMhelix	463	485
inside	486	505
TMhelix	506	528
outside	529	542
TMhelix	543	565
inside	566	620



Transmembrane values in the graph are maximum.

Inside values are minimum.

Outside values are also minimum.

The above information shows that possibility of passing SLC across membrane are maximum which is our only concern. So in the light of above information, it is obvious that intracellular environment can be neutralized by the above mentioned mechanism.

## References

1. National Cancer institute, "Definition of cancer," What is cancer.
2. "Is gene therapy safe?," MedlinePlus.
3. "Cncer Treatments," Cancer Quest.
4. "Chemotherapy," Pancreatic Cancer UK.
5. "DNA Repair," Wikipedia.
6. M. Yang, . X. Zhong and . Y. Yuan, "Does Baking Soda Function as a Magic Bullet for Patients With Cancer? A Mini Review," National Center for Biotechnology Information, 2020.