Using Cancer to Fight Against Cancer by Modifying Protein Receptors of T-Cell

Inan Rahman

Department of Genetic Engineering and Biotechnology, East West University, Dhaka-1212, Bangladesh

Corresponding Email : inanrahman179@gmail.com

Introduction

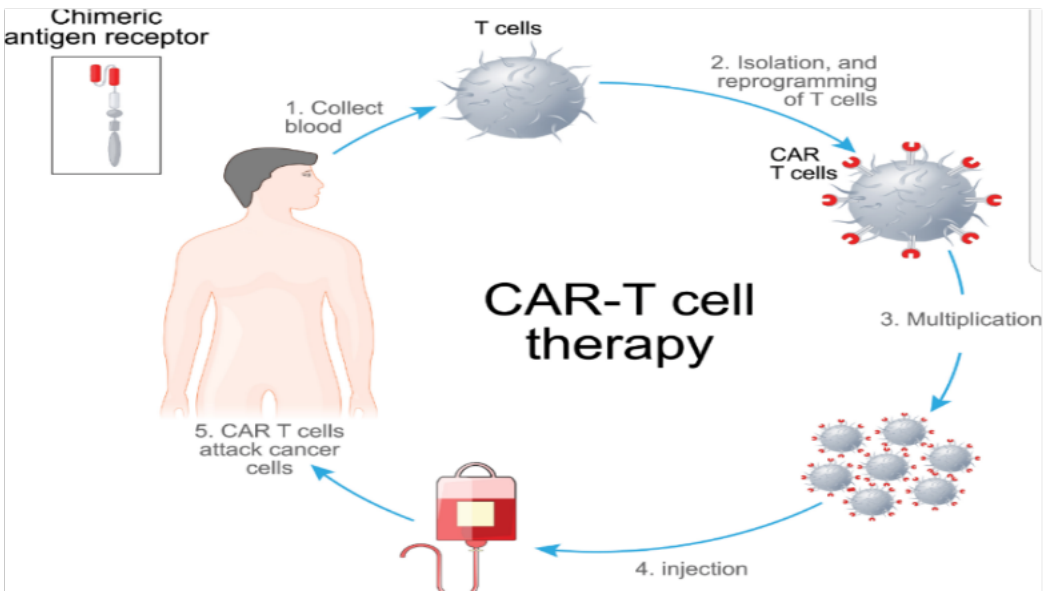
T cells are a type of white blood cell that is very quick to indentify foreign treats.They have a CD-28(Cluster of Differentiation 28)protein receptor that makes them more active.They also have a PD-1(Programmed cell death protein 1)receptor that comes them down avoiding autoimmune diseases.With TCR (T-cell receptor)receptor they can scan our body and destroy the foreign agents.But in the case of Cancer it's different.Cancer cells are our cells that gone rough.Cancer cells send PDL(Programmed death-ligand 1 (PD-L1) also known as cluster of differentiation)and surpress the T cells.As a result, Cancer cells develop in our body.The main objective of the work is to develop the T cells so that it can indentify the Cancerous cells in our body.For that the receptors of the T cells have to be developed and must have the ability to check the Cancerous cells in our body.Like Chemotherapy ,this may also have certain side effects.But in this research we want to avoid this by modifying the T cells.As a result ,we we will be able to use cancer by modifying the T cells against their own Cancer cells.

Method

In this research, the main aim is to develop a new T-cell.Normal T- cells can not identify the cancer cells in our body.As a result, Cancer cells spread thought our body.Cancer cells unleash a protein named PDL protein that inactive the T-cells.The pain puspose of the research is to use this PDL protein against the Cancer.So the CD-28 and PD-1 receptor has to be improved.If we can use this PDL protein we can use it against the Cancer cell.Moreover,a developed T-cell will be created.So first we have to figure out the Reverse protein named as R protein activity.This will reverse the activity of Cancer cells and instead of slowing down the T - cells they will destroy their own cells.The modified T-cells will not be surpressd by the Cancer cells though it send the PDL protein.So the receptors of the T-cells has to be improved.The process of improving the T cells start with the modification of CD-28 and PD-1 receptor.CD-28 receptor makes the T - cells more active during foreign pathogen entrance.On the other hand, the PD-1 receptor comes them down making them inactive.So we will use the active part of CD-28 which is the base part of the receptor and the receptor part of PD-1.This genetic code also include the characteristics of modified R protein.Including this in the T -cells ,the T-cells will be genetically modified.As a result, it will add a bonus fixture to the T -cell.First we have to insert it in the cells of the mouse.We have to observed the out come of the insertion of the new T-cells.

Result

The genetically modified R protein will reverse the activity of the Cancer .It will use the PDL protein signal against them .When the PDL protein is released from the Cancer cell,it will still receive by the new modified receptor but the action will be reverse.It will not be inactive ,rather it will be more active and start to scan the Cancer cells in the body.Moreover, the T cells will send R protein to the Cancer cell.As a result,the Cancer cell idenfication capability will be reversed and it will start to destroy its own cells in the body because of the R protein.



Conclusion

The genetically modified R protein also fixtures a bonus characteristics.It will automatically starts to lysis the Cancer cells inside.In the cells of the mouse it will be observed properly.Cancer own cells will be destroyed.The significance of this research is very important to deal with the advanced issue of Cancer.This is a hypothesis of the previous experiment of T-Cell based immunotherapy.For fighting against Cancer it is very necessary to improve the activity of the T-cells.It is only possible by modifying the protein receptors of the T-cells.By doing this,it will not only modify the receptor of the proteins but also give T-cells some bonus fixture with is very essential to deal with the activity of the Cancer cells in our body.

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Reference

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