

# The Intelligent Defense Operatives in the Blood: Complement Molecules

There is a system inside the body almost identical to social life among human beings. The only difference is that the heroes of the social life on the outside are human beings, while those in the body are cells. Nonetheless, the methods employed, the tactics used and the precautions taken are highly similar. Like conscious human beings, cells also have similar abilities to defend themselves, behave intelligently and take precautions. One major example of this takes place among the defense cells.

White blood cells, of which there are many different types, are programmed to fight against everything that might harm us from the moment we begin to breathe. The absence of even the smallest part of this flawless mechanism of ours could mean that we could die from a simple illness.

In addition to this perfect mechanism in our bodies, we also have defense operatives who are active even if we do not fall ill. From our birth to our death, these defense operatives are programmed to attack "every cell" in the body. This is really astonishing; although they exist to defend the body they regard all the cells that comprise that body as hostile. The system they comprise is known as the "complement system."

## The Intelligent Methods Employed by Complement Cells

Complement molecules consist of more than 20 different proteins. They are produced in the liver, from where they pass into the circulatory system. Under normal conditions, these cells move ineffectively and haphazardly through the bloodstream. When stimulated, however, they suddenly decide to destroy all the cells they see. This stimulus spreads through the entire system in the body through one single complement cell channel. Once stimulated, they make no distinction between friend or foe in the body. They therefore also try to bind to the body's own cells and destroy them. But the body does not let its cells be killed because the cells of the body are remarkably intelligent and possess the ability to protect themselves. They literally "recognize" complement cells the moment they see them. As soon as complement cells touch cells belonging to the body, the body's own cells neutralize them. In this way, the body is not struck down by its own troops; it does not succumb to "friendly fire". However, foreign organisms that have entered the body are inevitably attacked by these defense operatives they never expected to meet.

→ **Complement Cells Prevent Aggressor Cells Doing Harm by Opening a Hole in the Aggressor Cell Membrane:** When one of the complement molecules binds to a foreign organism, it changes shape. This is followed by the first protein possessed by the complement molecule binding to the bacterium. The other proteins of the complement system then bind to the bacterium one by one, and the complement hunters thus surround the invading bacterium. The final component of the complement system is responsible for attacking the cell membrane. This intelligent molecule opens a hole in the cell membrane, the only means of defense for the unprotected bacterium. Following this attack, the bacterium absorbs water and explodes.

Sometimes, complement molecules use a different technique. They cover the enemy with a fine membrane, thus identifying it for other cells to consume it.

As seen in this example, there is a glorious intelligence in every part of the human body. That intelligence lies in every organism that protects and defends and keeps the body alive. It is essential for the cells of the body to recognize complement aggressors; otherwise a single attack might well cost a person their life. These powerful guards need to be on the alert at all times.

## **Are You Aware of the Presence of this Immaculate Complement System in the Human Body?**

Apart from a few scientists who specialize in the subject, the number of people familiar with the mechanism in question is quite limited. Nonetheless, every human being without exception is equipped with this flawless system. This system is at work at every moment because our Lord God creates them and gives them knowledge of defense and attack in the body. God inspires them with the knowledge of whom to fight. God determines their duties. The flawlessness they possess is a blessing on them from God and you are protected, and in the way that God wishes, against invaders in your body. This perfect system we are describing, with all its details, is just one of the works of our Almighty Lord.

The war in the body may not always end in victory. If bacteria that are more able than complement molecules enter the body, these can compromise the entire functioning of these molecules. The mutual display of intelligence that arises in such situations is truly astonishing. For example, pneumococcus bacteria that causes pulmonary infections recognize the warrior molecules coming to attack them before they even enter the body. It is our Almighty Lord Who identifies these molecules to them, Who created them, Who monitors that at every moment and keeps them under His control. Bacteria entering the body in order to infect it are covered in a slippery membrane that makes it impossible for the complement molecules to recognize them. In this way, the complement molecules are unable to identify these bacteria as uninvited and harmful guests.

After this you might imagine that bacteria can move around in the body as they wish. The fact is, however, that foreign objects that escape one trap in the human body with its perfect system will encounter another major obstacle. Giant macrophages tear open the skipper sheath that prevents bacteria from being recognized and neutralize them by trapping them with their long arms. When they choose not to do this, they release a special identifier that marks the bacteria. Once the bacteria are marked, complement molecules and other cells recognize and destroy them.

These things all show that the bacterium entering the body - and the molecules that fight it within the body - are both the work of God. Bacteria are clearly aware of the kind of danger they will encounter. And the body's cells have ready precautions made against a bacterium that may enter the body before they ever become acquainted with it. This is of course one of the examples created in our bodies to show that God, the Lord and absolute ruler of the universe, creates all things. This fact is noted as follows in verses:

**"Say: 'I seek refuge with the Lord of mankind, the King of mankind, the God of mankind,)' (Surat an-Nas, 1-3)**

"They will say, 'Our Lord, our miserable destiny overpowered us. We were misguided people.'" (Surat al-Mu'minun, 116)

Complement molecules are an example of perfection, created with all their characteristics and all of whose components function in coordination. They are therefore important proofs of creation. We are once again looking at the flawlessness in God's creation. God reveals the fact of creation as follows in one verse:

**"This is God's creation. Show me then what those besides Him have created! The wrongdoers are clearly misguided." (Surah Luqman, 11)**

### **How Does the AIDS Virus Compromise the Defense Mechanism?**

AIDS, a lethal disease to which no cure has thus been found, is another important example of how aggressor and defender are both the works of a single Creator. The HIV virus responsible for the disease enters the body with a tactic specially planned against the body's defense mechanism; it knows what it will be fighting before it ever enters the body. For that reason, the moment it enters the body, instead of infiltrating into any cell like other viruses do, it enters inside the 'Messenger T cell,' which is responsible for destroying foreign objects in the body and reporting it to other defense elements. It compromises the cell and does not let it send a message of danger. An immune system whose elements have been compromised cannot function as it did before. As a

result, the body becomes unable to fight off even the simplest viruses. Because of the destructive cumulative effects of the HIV virus on the immune system, even a flu virus can prove fatal.

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