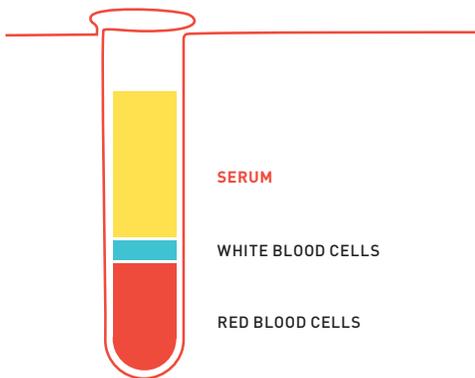


# Blood Donation Serum Program



## Why is Serum so important?

### WHAT IS SERUM?

Serum is a blood component without red blood cells, white blood cells or a clotting factor.

### ARE SERUM AND PLASMA THE SAME?

Serum is the liquid that remains after the blood has clotted, and plasma is the liquid that remains with the addition of an anticoagulant to prevent clotting.

### HOW IS SERUM PRODUCED?

The whole blood is allowed to clot for 30 minutes, then it will go through a centrifuge process so the separated serum can be collected.

### WHAT IS IT USED FOR?

Serum is one of the nutrients essential for growth of **immunotherapy cells**.

### WHY DO WE NEED SERUM DONATIONS?

There is no artificial substitute, so that's why we need donors like you!

## YOUR VOLUNTEER DONATION CAN HELP UNLOCK THE CURE

### CANCER TREATMENT

The process of treating cancer has become more innovative and less toxic in recent years. Surgery is still the first choice for removing small solid tumors that have not spread, but when cancer occurs in the blood or lymphatic system, the disease cells can quickly travel all over the body. Since those systems are also the source of the body's immune cells (T-cells), the circulatory system is the perfect delivery mechanism for treatment, utilizing the body's own built-in immunity to seek, attack, and destroy tumor cells.

### OUR IMMUNE SYSTEM

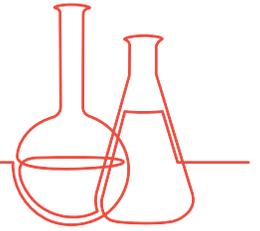
Our immune system's T-cells utilize two defense mechanisms. First, they recognize proteins in our bodies that don't belong there and then pick up samples of those compounds and present them to other immune cells in the body. They either instruct to attack specific tumors to B-cells that form antibodies to recognize the foreign material, or they present the material to other T-cells to form attack cells.

In cancer treatment, both pathways are used successfully. Bloodworks has developed a growing number of engineered antibodies that target characteristic tumor proteins. The engineered antibodies attack certain proteins, but are not as effective at destroying cells. If you can engineer the patient's own cells to become the attack cells, there are many fewer complications or problems with treatment.

### MODERN INNOVATIONS

Some of the major local research teams are leaders in innovating the complex mechanisms needed to develop this process. It involves collecting cells from a patient, using a process to separate the cells needed, and inserting nuclear material that primes the immune cells to attack a specific target—lymphoma cells, for example. Then, the cells are grown in culture so there will be an ample dose of the cells to effectively target the cancer or infection that the research team is using. **Human serum** is one of the key nutrients needed for culture.

Serum is one of the key nutrients essential for the growth of immunotherapy cells.



#### OUR MISSION

Saving lives through research, innovation, education and excellence in blood, medical and laboratory services in partnership with our community.

#### CONTACT

**Phone** (206) 568-3637

**Email** [serum@bloodworksnw.org](mailto:serum@bloodworksnw.org)

**Website** [bloodworksnw.org/serum](http://bloodworksnw.org/serum)

#### DONATION LOCATIONS: By appointment only

##### Seattle, First Hill

921 Terry Ave  
Seattle, WA 98104

##### Bellevue

1807 132nd Ave NE  
Bellevue, WA 98005

 Bettering  
our community,  
drop by drop.

[bloodworksnw.org/research](http://bloodworksnw.org/research)

## Tips for Donating Serum

#### BEFORE YOUR DONATION:

- ◆ Drink extra fluids.
- ◆ Clear-liquids only for 12 hours before your appointment.
- ◆ Get a good night's rest.
- ◆ Wear a shirt with sleeves that can be rolled up past the elbow.

#### AFTER YOUR DONATION:

- ◆ Relax for a few minutes in our canteen and enjoy the refreshments.
- ◆ Avoid strenuous activity such as lifting, pushing, or picking up heavy objects for 12 hours after giving blood.
- ◆ Have iron-rich foods, such as red meat, fish, leafy greens, beans.
- ◆ If you donate more than twice a year, consider taking iron supplements (free supplements available—just ask!)
- ◆ You may donate for the serum project as often as **every other month.**

**THANK YOU FOR YOUR CONTINUING SUPPORT!**