# **LEUKOCYTES**

White blood cells or leukocytes are cells that fight invading viruses in the body. Leukocytes are a vital part of the body's immune system. There are anywhere from 7,000 to 25,000 white blood cells in a drop of blood. There are a special type of white blood cell called a helper T cell or a CD4 lymphocyte These cells secrete small proteins to help the "killer" T cells destroy viruses. CD4 cells are manufactured in the thymus.

## HIV/AIDS

HIV is a virus that duplicates by entering a healthy white blood cell. It attacks the receptor and breaks in. HIV stops your immune system and prevents you from being able to fight off other diseases. Currently there is no cure for AIDS but there are many medications that help people live longer and with fewer symptoms. Like most viruses, HIV is strands of genetic code wrapped in protein. There are spikes outside your immune system called T-cells which let the virus in. You can't get AIDS from insects, food, and places like public pools. HIV cannot live outside the body. That is why touching someone with AIDS cannot hurt you.

### THE HISTORY OF AIDS

The first case of AIDS in the US was reported in 1981 but it was probably around for many years before then. By 2002, the worldwide death count was approximately 6.4 million. In 2005 more than 40 million people had AIDS. 40% of the people in sub-Sahara in Africa are infected with HIV People think that humans got AIDS from monkeys.

# HONEY POT TRAPPA-LAPPA SUPER DUPER TRAPPER "TRAPPA-LAPPA"

The Trappa-lappa is a vaccination for AIDS. It is sent into the body by injection. Millions of Trappa-lappas are sent into the body with the vaccine. Unlike Leukocytes, Trappa-lappas are on the Nano scale. A person would need a booster shot about every five years to replace the Trappa-lappas that are filtered out of the blood stream by the kidneys.

Our solution is similar to nanoshell-assisted tumor ablation.

First, nanotubes are wrapped in DNA strands. This fabrication attracts the HIV which wants to use DNA to replicate. We functionalize the nanotube-DNA structures to be more attractive to HIV than natural DNA used for replication in cells. This is our 'honey-pot trap' for the HIV. Once trapped, the HIV can no longer replicate. The nanotubes are also functionalized with nanoshells that absorb infrared light.

#### HIV EXTINGUISHER

I am the HIV Extinquisher, a nanorobot this is injected into the body along with the Trappa-Lappas. After the HIV are trapped by the trappa-lappas, the region is heated with a LASER. The nanoshell heats up, destroying the materials which become waste products eliminated by the body.

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