What is an AIDS vaccine?

An effective AIDS vaccine teaches the body to recognize the human immunodeficiency virus (HIV) that causes AIDS and provokes an immune response that defends against the virus if it enters the body. The information on how to defeat the virus becomes part of the immune system's memory; the immune system prepares to fight back every time it encounters the virus.

Right now, there is no vaccine to protect against HIV/AIDS.

In common language, 'vaccine' typically refers to a preventive vaccine. A preventive vaccine is designed for individuals who are not infected with HIV. The vaccine would either prevent the individual from becoming infected when exposed to the virus, or if infection occurs, in the case of HIV, stop the disease from progressing as quickly to AIDS. There are also therapeutic vaccines, which are designed to reduce the impact of HIV/AIDS in individuals already infected with the disease.

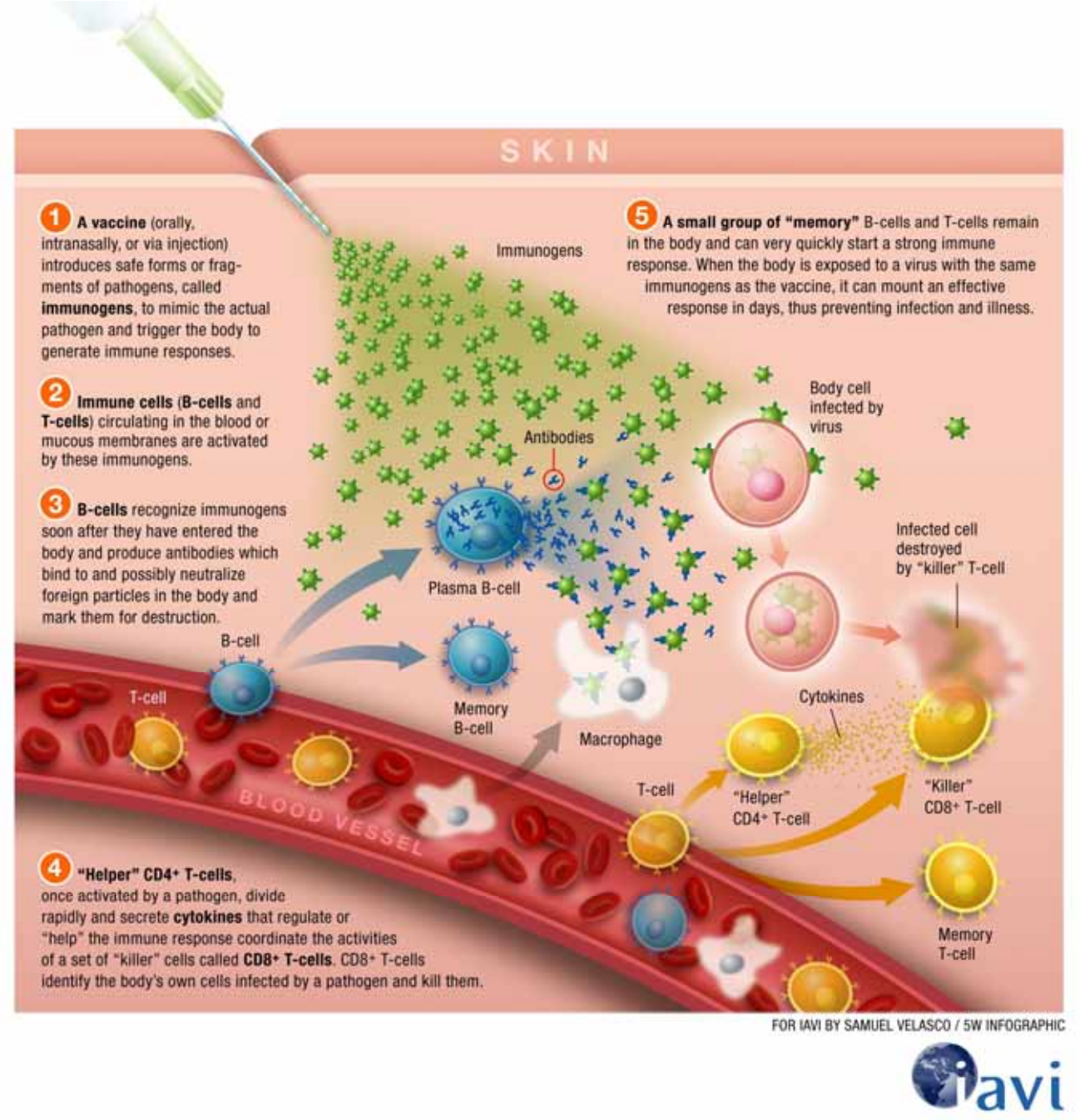
Characteristics of an ideal preventive vaccine

Safe – does not cause any serious side effects (for example, fever, headache, soreness at injection site).
Efficacious – must show that people who are vaccinated have significantly less infections or disease.
Effective – must decrease the disease in the general population.
Stable – can last for a long time in various conditions or environments.
Available – should be able to be produced in large quantities and be deliverable to everyone who needs it.
Accessible– should effectively reach the populations in need quickly and easily.
Affordable – should be affordable for governments or individuals who need it most.

Definition of a vaccine

A vaccine is a substance that is introduced into the body to prevent infection or to control disease due to a certain pathogen (any disease-causing organism, such as a virus, bacteria or parasite); the vaccine 'teaches' the body how to defend itself against a pathogen by creating an immune response. Vaccines can be introduced in different ways, such as injection into the muscle (intramuscular) or into or under the skin (intradermal or subcutaneous); by application to the skin (transdermal); by application to the inside of the nose (nasal); or by being swallowed (oral).

How vaccines work against viruses



Source: *AIDS Vaccine Blueprint 2006: Actions to Strengthen Global Research and Development*