

## The SMARTube™ - Closing the window period of HIV and HCV

**The key to early and complete detection of HIV (AIDS) and HCV (Hepatitis C).**

**The Key to curtailing the epidemic, saving lives, and providing care to those infected**

**Facts:**

Tests for the detection of carriers (those that got infected with the virus) are done all over the world. To identify the carriers a blood sample is tested for antibodies against the virus.

Antibodies are the only approved diagnostic tool. (Other tests are only “add on” to them)

**Problem:**

It can take weeks or months after infection before antibodies against HIV or HCV are produced and detected. The infected yet test-negative period is called the “**window period**”. Infected people, during the window period will test (falsely) negative, while being infectious.

**The solution:**

**To close the window period** by enabling antibody production, in detectable levels, in a small blood sample, within days from infection, i.e. creating a “time machine” to accelerate, within days, the process which takes weeks and months in the body. This is done by the SMARTube™, a test tube with a special solution inside it, in which the blood sample is incubated prior to the regular testing for HIV or HCV antibodies.



**Why is it important to use the SMARTube™, i.e. to detect early all the carriers?**

Diagnostic testing – When infected people are still test-negative we miss the “one time chance” to identify them, counsel them, treat them, and save the lives of those around them.

For example, in pregnant women, a false negative result will mean no treatment to the mother and baby to prevent HIV transmission to the infant. In high risk populations, every unidentified carrier could infect, directly and indirectly, some fifty people a year.

Epidemiological studies- For effective studies in prevention, treatment and vaccine programs it is critical to identify the new infections both prior, and during, the study.

Blood Banks – blood units donated during the “window period” will be transfused into patients, and infect them. The extent of the problem increases with the rate of spread of the epidemic, and is the heaviest in developing countries with high prevalence and no effective donor selection programs.

**Current status of the SMARTube™:**

Approved for use in all the EU countries (received the CE Mark), in Israel and Romania, in process of registration and approval in South-Africa, China, USA, and other countries.

It is very simple to use, needs no expensive or complex equipment or training, and is just an incubation step for the blood prior to testing it in the current tests for HIV and HCV antibodies.

It is not a diagnostic test, and it can work with all the tests out in the market, for all viral strains. The SMARTube™ improves both the specificity and sensitivity of the existing assays.

**Using the SMARTube™ is very cost effective:**

There are over 300 million tests for HIV, and a similar number for HCV done in the world per year. Since “testing and counseling” has been found to be the most effective way to curtail the epidemics, a steep rise in testing is expected in the coming years.

Infected individuals who are currently missed due to the window period problem will infect many others and will personally have a shorter and less productive life due to lack of treatment.

Thus using the SMARTube™ for early and complete detection of HIV and HCV carriers will have a major effect on easing the health-economic burden of these epidemics.