



# DNCB

## **WHAT IS DNCB?**

Dinitrochlorobenzene (DNCB) is a chemical used in color photography processing. DNCB is a "contact sensitizer", which means that it causes an itchy red rash similar to poison oak or poison ivy. Some health care providers have used DNCB to measure the strength of the immune system: the greater the skin reaction to DNCB, and the faster it shows up, the stronger the immune response.

## **WHAT ARE THE BENEFITS OF DNCB?**

Some researchers and community activists proposed that when DNCB is applied to the skin once a week, it stimulates the immune system to control HIV replication and delay opportunistic infections. Some research shows that DNCB leads to increases in CD8 (T-killer or T-8) cells. These cells are an important part of the immune system.

There is almost no good research on DNCB. Some studies suggest that DNCB decreases the number of CD4 (T-helper or T4) cells. However, a recent study did show some reduction of viral load.

## **WHY DID PEOPLE WITH HIV USE DNCB?**

Research on DNCB shows that it stimulates the immune system. It has been used to treat skin lesions caused by Kaposi's Sarcoma (KS).

Advocates of DNCB claimed that it could clear up all symptoms of HIV disease, except for pneumocystis pneumonia (PCP). DNCB's supporters claimed that antiretroviral drugs (ARVs) were bad for the immune system. Despite dropping death rates from AIDS and many research reports, they argued that ARVs did not lead to longer life or a better quality of life for people with HIV disease. They used civil

disobedience to promote their point of view that AIDS medications are poison and should not be used.

A small group of activists formerly known as DNCB Now! was the main supporter of this therapy. The group was also known as ACT UP San Francisco. It is not connected with any other ACT UP groups around the world. It seems to have disbanded.

## **HOW WAS DNCB USED?**

DNCB is available as a liquid solution in four strengths: 10%, 2%, 0.2%, and 0.02%. The solution was applied on the skin once a week to a 2-inch square area. Then the area was bandaged and kept dry for 10 hours. After the first skin response (a red, itchy rash), the strength of the DNCB solution was lowered.

Instructions for using DNCB originally provided by DNCB Now! say that most other therapies could prevent it from working. This included long-term acupuncture, most herbs if used for more than a few days, high doses of vitamins, and ARVs.

These controversial instructions made it difficult for most people to try to use DNCB, especially since there is almost no research to support its use.

## **WHAT ARE THE SIDE EFFECTS?**

The first application of DNCB may produce a chemical "burn" in addition to the normal itchy rash. The rash occurs each time DNCB is applied and lasts for a few days. Some people have persistent scarring or rashes where they apply DNCB. It may also cause sensitivity to other chemicals.

No other side effects have been reported. However, DNCB has not been carefully studied in any large clinical trials. Long-term side effects are unknown, although one study

suggested that DNCB might cause cancer.

## **HOW DOES DNCB INTERACT WITH OTHER THERAPIES?**

DNCB advocates believed that almost every other HIV therapy reduced the action of DNCB. They did not recommend the use of any ARVs, of high-dose vitamins, or more than short-term use of most herbs or acupuncture.

## **HOW DO WE KNOW IT WORKS?**

There is very little research to support the benefits of DNCB and no recent research. No study on DNCB has started with more than 24 patients, and many patients dropped out of the studies. However, some studies continued for over two years. DNCB seems to restore immune responses in the skin that are lost as AIDS develops. These skin responses may not be a good indicator of overall immune health. Because DNCB is very inexpensive and cannot be patented, it is very difficult to find a sponsor to pay for clinical trials.

## **THE BOTTOM LINE**

DNCB is a "contact sensitizer" that stimulates one part of the immune system. There is almost no research to support its use. However, there used to be a small group of AIDS activists called ACT UP San Francisco that strongly supported the use of DNCB.

*Revised April 15, 2008*