Pregnant

hCG

Not pregnant

Detecting Hormones

Human chorionic gonadotrophin (hCG)

hCG is a hormone that is only found in the urine of pregnant women., though can be produced from some type of tumours and can therefore be detected in both men and women. This means you can test if a woman is pregnant by looking for hCG.

Testing for pregnancy

A stick is used with an application area that contains antibodies for hCG bound to a (blue) coloured bead.

When urine is applied to the application area any hCG will bind to the antibody on the beads.

The urine moves up to the test strip, carrying the beads with it. The test strip has anchored antibodies to hCG stuck in place (immobilised)

If there is any hCG present the test strip turns blue because the immobilised antibody binds to any hCG attached to the blue beads, concentrating the blue beads in that area. If no hCG is present, the beads will pass through the test area without binding to anything, and so it won't go blue.

One blue line is a control, in which there are antibodies the to the hCG detecting antibody; two lines means is gaincy, one control means no pregnancy, one point vermay mean 2 fais Page 9 positive/test

Anabolic Prisa

Anabolic steroids are drugs that build up muscle tissue. Testosterone is an anabolic steroid, and there are other common ones such as Nandrolone. Some athletes are banned from taking anabolic steroids; this is to prevent unfair advantages when competing, as well as avoiding the misuse of steroids that can have dangerous side effects such as liver damage.

However, some athletes will continue to try and beat the system by taking anabolic steroids and attempting to hide their footsteps in the pressure on elite athletes to perform well. Taking steroids can have positive effects on performance, such as increased strength owing to the build-up of athletes' muscle tissue

Testing for steroids

Steroids (or the products produced when they are broken down) are removed from the blood in urine, and so a urine sample is taken and vaporised. The gas is passed through a column containing a liquid – different substances move through the column at different speeds due to their solubility. The length of time taken for the substances to pass is compared to that of the time taken for a steroid to pass through - if the time taken is the same, then the sample contains a steroid. This process is known as gas chromatography.



N.B. 1. A gaseous solvent is used 2. Column is lined with liquid to prevent adsorption 3. Time spent as a gas until being absorbed in detector is known as retention time