

# NicAlert™

---

## Saliva vs. Urine Testing With NicAlert™

**NicAlert** can be used to test the level of cotinine, a by-product of the body's breakdown of nicotine, in urine and saliva. Nicotine is the active ingredient found in tobacco products and tobacco smoke. Cotinine is a widely accepted indicator of recent tobacco use and exposure, including second hand smoke exposure.

### **NicAlert** Saliva vs. **NicAlert** Urine

#### **Both tests:**

1. Provide quick, accurate, on-the-spot determination of an individual's smoking status.
2. Measure the use of cigarettes, pipes, cigars and other tobacco products.
3. Measure nicotine intake from nicotine replacement sources such as patch, gum and lozenge.
4. Have been used medically and in research programs.
5. Can provide a positive incentive to people trying to quit or reduce tobacco intake by watching their levels drop.

**The urine test** is ideal for lower levels of nicotine exposure and is sensitive enough to determine second hand smoke exposure. A reading of 1 typically points towards some passive smoke exposure. A reading of 2 indicates considerable passive exposure. A reading of 3 is normally the cut-off for determining if the subject is a smoker. Testing urine is also preferable for chewing tobacco studies.

**The saliva test** is suitable for situations where taking a urine sample is impractical, or where the subject is a heavy user of tobacco products. A level of 1 typically indicates a smoker; so it is not suitable for examining second hand smoke exposure.

### **Testing Cotinine in Saliva vs. Urine**

Some metabolites like cotinine, become concentrated in urine, compared to levels found in saliva. Because of this, a reading of 1 (10-30 ng/ml) for example, would normally indicate far more nicotine exposure if read from the saliva test, than from the urine test.

There is no fixed ratio of nicotine exposure when comparing urine to saliva readings (unless both tests have been performed on the same subject at the same time). The ratio of cotinine in saliva, to that found in urine, could vary between individuals, gender, or the time that has passed since the nicotine was ingested

Following is a table of results and a comparison of the urine to saliva test.

# NicAlert™

---

LEVEL	COTININE CONCENTRATION (ng/ml)	URINE	SALIVA
0	0-10	Non-user of tobacco products. Minimal to no exposure	Non-user of tobacco products
1	10-30	Non-user of tobacco products. Low passive nicotine exposure	User of tobacco products
2	30-100	Non-user of tobacco products. Higher passive exposure.	User of tobacco products
3	100-200	User of tobacco products	User of tobacco products
4	200-500	User of tobacco products	User of tobacco products
5	500-1000	User of tobacco products	User of tobacco products
6	1000+	User of tobacco products	User of tobacco products

## Urine Test Kit

The urine test kit contains a test strip, a detailed product insert and a plasticized card. The card outlines simple instructions and provides a non-absorbent surface to lay the strip on while performing the test.

Urine does not need to be processed, nor does it need to be “first morning” or “mid-stream”. It does need to be clear and at room temperature. The tip of the test strip is dipped (not beyond the arrows), for 20 seconds and then placed on the area indicated on the plastic card. After 15-20 minutes when the blue line at the strip’s top disappears the test can be read.

## Saliva Test Kit

The saliva test kit contains a test strip, a small funnel, a collection tube and a specialized filter cap.

Saliva is spit through the funnel into the tube. The filter cap is placed on the tube and the tube is squeezed until 8 drops have been placed on the end of the strip (indicated by arrows). The strip is then laid on a non-absorbent surface to develop for about 15 to 20 minutes.

It is important to recognize that it is the same test strip for both applications. What differs is the nature of the fluid being tested.