

# BALANCETEST

## SELF-TEST FOR ANALYZING FATTY ACIDS IN THE BLOOD

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### HIGHLIGHTS REGARDING BALANCETEST

Zinzino's BalanceTest is an easy self-test for analyzing the fatty acids found in capillary blood obtained from a fingertip using the Dried Blood Spot (DBS) technique. A DBS is scientifically proven to be as accurate as a venous blood sample when fatty acids are to be analyzed. All it requires is a few drops of blood from the fingertip on a Whatman® filter paper and it takes less than a minute to complete.

VITAS Analytical Services in Norway will anonymously analyze the percentage content of 11 fatty acids, which together represent approximately 98% of the fatty acids in the blood and the values reflect your diet for the last 120 days, which is the lifetime of blood cells. The result is then displayed, after about 10-20 days, on the [zinzinotest.com](http://zinzinotest.com) website.

### KEY BENEFITS

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- ▶ **Easy-to-use dried blood spot self-test**
- ▶ **Measures 11 fatty acids in your blood**
- ▶ **Provides data about your Omega-6:3 Balance**

## HOW DOES IT WORK?

You should take your first\* BalanceTest, and then start at once to take your daily dosage of Zinzino Balance products. Continue to take the Balance products as recommended for 120 days, and then take your second BalanceTest to find out how your fatty acid profile has changed.

\*Should your initial results show an Omega-6:3 Balance of 3:1 or better, then you should contact Zinzino since you do not need the Balance product.

### WHAT WE MEASURE

The test measures 11 fatty acids, including saturated, monounsaturated (Omega-9) and polyunsaturated (Omega-6 and Omega-3) fatty acids. Individual fatty acid values are shown in the table and expressed as percentages of the total fatty acids measured. For comparison in the table, the average range for each fatty acid (based on data obtained from a large group of balanced people) is presented as Target Value. The following fatty acids are measured:

*Palmitic acid, C16:0, saturated fat*

*Stearic acid, C18:0, saturated fat*

*Oleic acid, C18:1, Omega-9*

*Linoleic acid, C18:2, Omega-6*

*Alpha-linolenic acid, C18:3, Omega-3*

*Gamma-linolenic acid, C18:3, Omega-6*

*Dihomo-gamma-linolenic acid, C20:3, Omega-6*

*Arachidonic acid (AA), C20:4, Omega-6*

*Eicosapentaenoic acid (EPA), C20:5, Omega-3*

*Docosapentaenoic acid (DPA), C22:5, Omega-3*

*Docosahexaenoic acid (DHA), C22:6, Omega-3*

### INDEPENDENT LABORATORY

Your test is analyzed by an independent and GMP-certified laboratory. The fact that Vitas is GMP-certified means that they follow good manufacturing practices. They are a contract laboratory for chemical analysis with 25 years of experience, providing high-quality chromatographic analysis based on cutting-edge knowledge and technology. Included with the blood test is a BalanceTest ID that only you can see. Neither the lab, nor Zinzino knows who submitted the test. At zinzinotest.com your results will be displayed when you enter your BalanceTest ID. If you have completed the questionnaire, you will have access to the complete analysis. If you have not completed the questionnaire, you will see your balance score only.

### CERTIFIED TEST KIT

The Zinzino Dried Blood Spot Test is certified to comply with the European regulation 98/79/EB on in vitro diagnostic (IVD) medical devices. This means the test and all its components are in compliance with applicable laws and regulations, and so the Kit has the CE mark on it.

### THIS IS HOW YOUR RESULTS ARE CALCULATED

11 fatty acids are analyzed and the total sum of their amounts is considered 100%. For the following 6 values, we use 7 of the fatty acids. The analyzed amount of each of the 7 fatty acids is calculated as a percentage out of the 100%.

1. Omega-3 Eicosapentaenoic acid (EPA)
2. Omega-3 Docosahexaenoic acid (DHA)
3. Omega-3 Docosapentaenoic acid (DPA)
4. Omega-6 Arachidonic acid (AA)
5. Omega-6 Dihomo-gamma-linolenic acid (DGLA)
6. Saturated fat, Palmitic acid (PA)
7. Saturated fat, Stearic acid (SA)

### PROTECTION VALUE

First, the following 3 recognized health indicators are calculated:

1. The value for the Omega-6 ratio is calculated like this:  
(DGLA+AA) \* 100 / (DGLA+AA+EPA+DPA+DHA)
2. The value for the Omega-3 level is the sum of EPA+DHA
3. The Balance value is calculated as Omega-6 (AA) / Omega-3 (EPA)

Each indicator value is given the same weight in a second calculation and assigned a value between 0 and 100, which is then divided by 3 to get the Protection Value that ideally should be above 90. This does not tell anything about the health status of the person, only the fatty acid protection level.

Note! EPA and DHA values have a high impact on all the calculations and if EPA and DHA percentages are low, then as a result very low or even zero Protection Values are not uncommon.

### OMEGA-3 INDEX

The Omega-3 Index is the summary of the percentage values for the two marine Omega-3 fatty acids EPA and DHA. The ideal combined level is at least 8%, but higher values like 10% are desirable.

Omega-3's have many benefits because they are the primary building blocks in your cells. EPA is dominant in the blood, muscles and tissues, while DHA is dominant in the brain, sperm and eyes.

### OMEGA-6:3 BALANCE

The balance is calculated by dividing the percent value of AA with the percent value of EPA (AA / EPA), which is then expressed as a Balance value, for example 3:1. The Omega-6:3 Balance in the body should preferably be below 3:1.

If this ratio is above 3:1, you will benefit from a change in your diet. A low balance of Omega-6 and Omega-3 is important for maintaining normal cell and tissue development (homeostasis) and help the body control inflammation.

### CELL MEMBRANE FLUIDITY

Fluidity is calculated by dividing the percent value of the two saturated fats with the percent value of the two Omega-3's. The fluidity value is thus defined as (PA+SA) / (EPA+DHA), and the result is expressed as a fluidity index, for example 3:1. If the fluidity value is below 4:1, it shows that there is sufficient fluidity in cell membranes.

The more saturated the fats are in a membrane, the more rigid is the membrane. Conversely, the more polyunsaturated the fats are in a membrane, the more fluid is the membrane. Cell membrane composition and structural architecture is critical for the health of the cells and hence the body. On the one hand, the membrane needs to be rigid enough to provide sound cellular structural architecture. On the other hand, the membrane needs to be fluid enough to allow nutrients in and waste products out.

## MENTAL STRENGTH

This is calculated by dividing the percent value of AA with the sum of the percent values of EPA and DHA, i.e. the Mental Strength value =  $AA / (EPA+DHA)$ . The result is expressed as a mental strength value, for example 1:1. The value should be below 1:1 for sufficient and balanced supply of both Omega-6 and Omega-3 fatty acids to the brain and the nervous system.

Cognitive performance improves with increased consumption of marine Omega-3's EPA and DHA. Childhood and old age are two critical and vulnerable stages and Omega-3 deficiency is associated with learning and memory deficits, as well as mood problems.

## ARACHIDONIC ACID (AA) INDEX

The AA Index shows the measured value of the Omega-6 fatty acid Arachidonic acid (AA) as a percentage out of the total fatty acids measured. Good average values are in the range of 6.5 to 9.5% with an optimum target value of 8.3%.

Arachidonic acid (AA) is the most important Omega-6 fatty acid for the body. It is the starting point for the production of local tissue hormones triggered by Omega-6, such as prostaglandins, thromboxanes and leukotrienes, all with various functions. The overall function is, however, to protect the body from damage by limiting the progression of the infection or the impact of the injury.

## TAKING THE TEST

**1.** BalanceTest is an approved in vitro diagnostics product for personal blood sample collection at home.

**- First wash your hands with soap and rinse well with warm water and dry them.**

Take out the sample card from the paper envelope.

Save the envelope for later use.

Tear off the **SAVE** part on the sample card and take a picture of the Test ID. You can **ONLY** see **YOUR** test result with your **PERSONAL** Test ID. Place the card with the two circles facing up on the table.

**2.** Use alcohol wipe to clean the tip of your finger (middle finger is recommended).

**Stimulate blood flow** by making big circles with your arm or shaking the hand downwards for 20 seconds. Take out the single-use lancet. Remove the transparent safety cap and the lancet is ready to use.

**3.** Place the lancet against the **lower** part of the fingertip facing the collection paper on the table. Push the top of the lancet against the finger until you hear a click. The lancet will automatically make a small prick in the finger.

**4.** Don't touch the filter paper circles with your hands. Squeeze the finger gently one time and add several, minimum 3, free dripping blood drops to each circle marked on the sample card. The blood should completely fill the inner part of the circles.

**5.** Leave the sample card in a horizontal position at room temperature for at least 10 minutes for the samples to dry well.

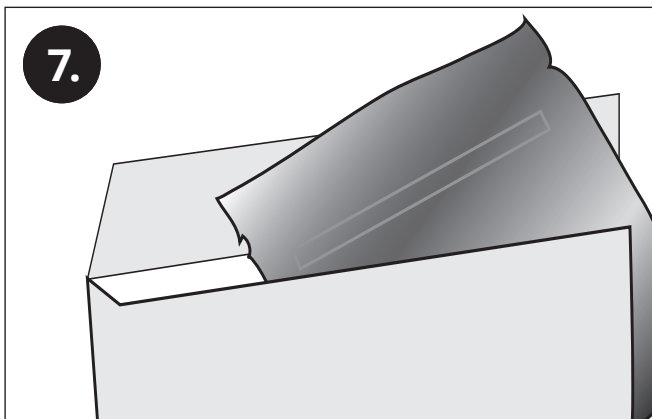
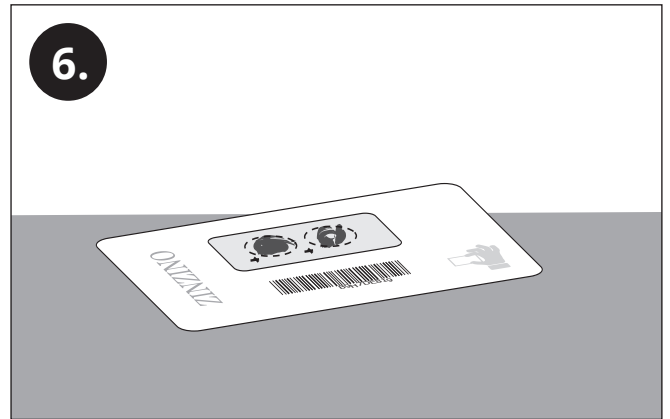
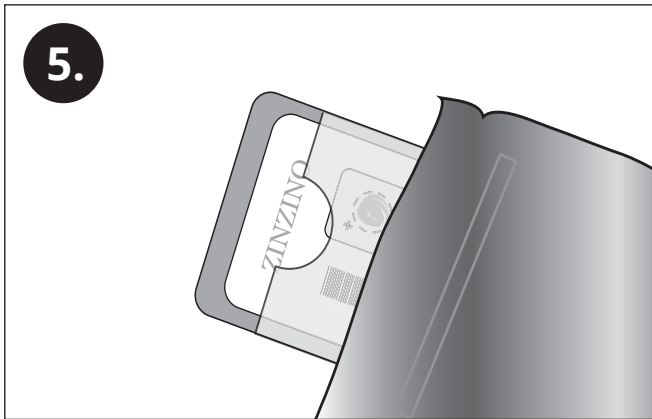
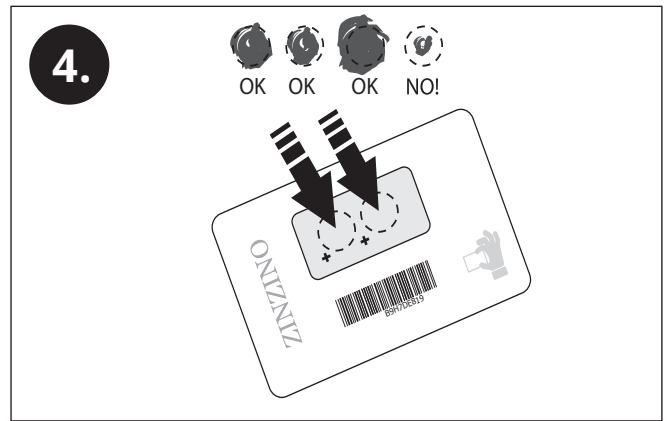
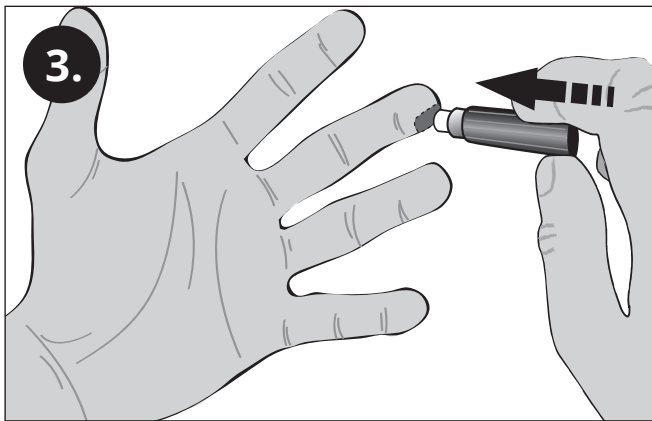
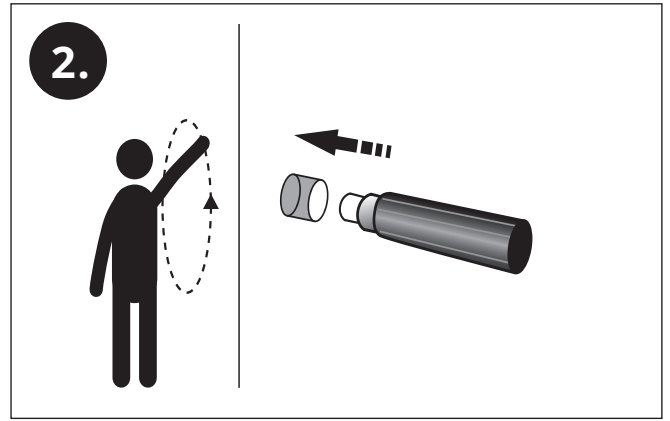
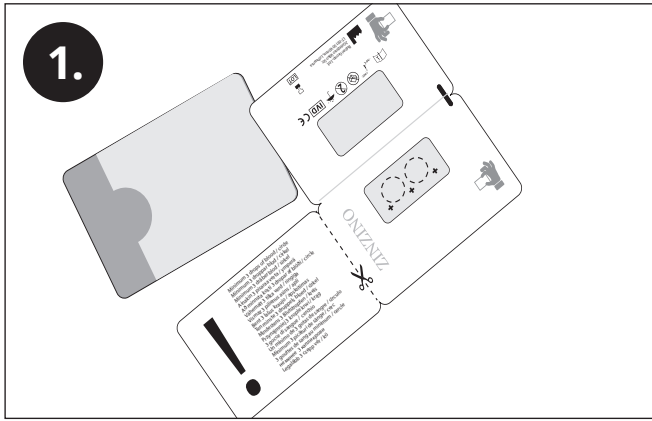
**6.** Insert the sample card back into the paper envelope. Then place the paper envelope into the metal bag and close it.

**Important:** Do not remove the desiccant bag from the metal bag.

**7.** Place the closed metal bag into the big envelope with the laboratory address on it. **NOTE!** You **MUST** put the correct amount of postage (stamps) on the envelope before you put in the mail box.

**8.** To register your Test ID online, visit **[www.zinzinotest.com](http://www.zinzinotest.com)**. This is the website where you can see your test results later. It takes 10-20 days until your result are ready.

**Important:** Keep the **SAVE** part of the card. You can **ONLY** see **YOUR** test results on the internet with your **PERSONAL** Test ID.



# BALANCETEST

血液中脂肪酸分析自我检测

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## BALANCETEST 特色

Zinzino 的 BalanceTest 是一项简易的自我检测，使用干血点 (DBS) 技术分析从指尖获得的毛细血管血液中的脂肪酸。经科学认证，DBS 在用于分析脂肪酸时，具有与静脉血样本同等的准确度。只需 Whatman® 滤纸上的几滴指尖采血，不到一分钟就可完成。

挪威的 VITAS 分析服务将匿名化分析 11 种脂肪酸含量，它们共占血液中脂肪酸的约 98%，这些数值反映了您过去 120 天 (也就是血细胞的生存周期) 的饮食情况。结果将于约 10-20 天后在 [zinzinotest.com](http://zinzinotest.com) 网站展示。

## 主要优势

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- ▶ 简单易用的干血点自我检测
- ▶ 测量血液中的 11 种脂肪酸
- ▶ 提供关于 Omega-6 与 Omega-3 比例的数据

## 使用方法

您应进行第一次\* BalanceTest, 然后立即开始每日服用 Zinzino Balance 产品。根据建议继续服用 Balance 产品 120 天, 然后进行第二次 BalanceTest, 了解您体内脂肪酸的变化。

\*如果您的初始检测结果表明 Omega-6 和 Omega-3 比例为 3:1 或更佳, 则应联系 Zinzino, 因为您无需服用 Balance 产品。

### 测量内容

该检测测量了 11 种脂肪酸, 包括饱和脂肪酸、单不饱和脂肪酸 (Omega-9) 和多不饱和脂肪酸 (Omega-6 和 Omega-3)。在表中, 单个脂肪酸的值用其占所测总脂肪酸的百分比表示。为在表中进行对比, 将每种脂肪酸的平均范围 (基于从大量脂肪酸均衡人群中获得的数据) 作为目标值。测量以下脂肪酸:

棕榈酸, C16:0, 饱和脂肪酸

硬脂酸, C18:0, 饱和脂肪酸

油酸, C18:1, Omega-9 脂肪酸

亚麻油酸, C18:2, Omega-6 脂肪酸

$\alpha$ -亚麻油酸, C18:3, Omega-3 脂肪酸

$\gamma$ -亚麻油酸, C18:3, Omega-6 脂肪酸

二十碳三烯酸, C20:3, Omega-6 脂肪酸

花生四烯酸 (AA), C20:4, Omega-6 脂肪酸

二十碳五烯酸 (EPA), C20:5, Omega-3 脂肪酸

二十二碳五烯酸 (DPA), C22:5, Omega-3 脂肪酸

二十二碳六烯酸 (DHA), C22:6, Omega-3 脂肪酸

### 独立实验室

您的检测由 GMP 认证的独立实验室进行分析。Vitas 已通过 GMP 认证, 表明其遵循良好生产规范。他们是一家拥有 25 年经验的化学分析合同实验室, 提供基于尖端知识和技术的高质量色谱分析。血液检测中包含一个只有您才能看到的 BalanceTest ID。实验室和 Zinzino 都不知道是谁提交的检测。当您在 zinzinotest.com 上输入您的 BalanceTest ID 时, 将显示您的结果。如果您已完成问卷, 则可以访问完整的分析。如果您还没有完成问卷, 则将只看到您的比例。

### 认证试剂盒

经认证, Zinzino 干血点检测符合关于体外诊断 (IVD) 医疗器械的欧洲条例 98/79/EB。表明该检测及其所有组件均符合适用的法律法规, 因此该试剂盒上有 CE 标志。

### 如何计算结果

对 11 种脂肪酸进行分析后, 认为其总量为 100%。对于以下 6 个值, 我们使用 7 种脂肪酸。7 种脂肪酸中每一种的分析量均以百分比计算。

1. Omega-3 二十碳五烯酸 (EPA)
2. Omega-3 二十二碳六烯酸 (DHA)
3. Omega-3 二十二碳五烯酸 (DPA)

4. Omega-6 花生四烯酸 (AA)
5. Omega-6 二十碳三烯酸 (DGLA)
6. 饱和脂肪酸, 棕榈酸 (PA)
7. 饱和脂肪酸, 硬脂酸 (SA)

### 保护值

首先, 计算以下 3 个公认的健康指标:

1. Omega-6 比值的计算方法如下:  
(DGLA+AA) \* 100 / (DGLA+AA+EPA+DPA+DHA)
2. Omega-3 含量值是 EPA + DHA 的总和
3. 比值按 Omega-6 (AA) / Omega-3 (EPA) 计算

在第二次计算中, 给每个指标值赋予相同的权重, 并分配一个介于 0 和 100 之间的值, 然后除以 3, 得到理想情况下应大于 90 的保护值。这并不能说明个人的健康状况, 仅显示脂肪酸保护水平。

注意! EPA 和 DHA 值对所有计算都有很大影响, 如果 EPA 和 DHA 百分比比较低, 那么保护值通常会因此很低甚至为零。

### OMEGA-3 指数

Omega-3 指数是两种海洋 Omega-3 脂肪酸 (EPA+DHA) 百分比值的汇总。理想的组合含量至少为 8%, 但值更高 (如 10%) 更为理想。

Omega-3 具有许多益处, 因为它们是细胞的主要组成部分。EPA 主要存在于血液、肌肉和组织中, 而 DHA 主要存在于大脑、精子和眼睛中。

### OMEGA-6 和 OMEGA-3 比例

比例的计算方法是将 AA 的百分比值除以 EPA 的百分比值 (AA / EPA), 然后再用比值表示, 例如 3:1。人体内 Omega-6 和 Omega-3 比例最好低于 3:1。

如果该比例高于 3:1, 则可以从改变饮食中得到改善。保持较低的 Omega-6 (AA) 与 Omega-3 (EPA) 比例非常重要, 不仅能维持正常的细胞和组织发育 (内稳态), 还有助于身体控制炎症。

### 细胞膜流动性

流动性的计算方法是将两种饱和脂肪酸的百分比值除以两种 Omega-3 脂肪酸的百分比值。因此将流动性值定义为 (PA+SA) / (EPA+DHA), 并且结果表示为流动性指数, 例如 3:1。如果流动性值低于 4:1, 则说明细胞膜有足够的流动性。

细胞膜中饱和脂肪酸越多, 细胞膜的刚性越强。相反, 细胞膜中多不饱和脂肪酸越多, 细胞膜的流动性越高。细胞膜的成分和组织结构对细胞和人体的健康至关重要。一方面, 细胞膜需要足够的刚性以提供稳定的细胞结构。另一方面, 细胞膜需要足够的流动性, 以让营养物质进入, 废物排出。

## 心理健康

计算方法是将 AA 的百分比值除以 EPA 和 DHA 的百分比值之和，即心理健康值 = AA / (EPA+DHA)。结果表示为心理健康值，例如 1:1。该值应低于 1:1，以向大脑和神经系统充分、均衡地供应多不饱和脂肪酸 (Omega-6 和 Omega-3 脂肪酸)。

增加海洋 Omega-3 脂肪酸 (EPA+DHA) 摄入量可以改善认知表现。童年和老年是两个关键且脆弱的年龄段，Omega-3 缺乏症与学习和记忆力差以及情绪问题有关。

## 花生四烯酸 (AA) 指数

指数显示了 Omega-6 脂肪酸花生四烯酸 (AA) 的测量值占所测脂肪酸总量的百分比。良好的平均值在 6.5% 到 9.5% 的范围内，最佳目标值为 8.3%。

花生四烯酸 (AA) 是人体最重要的 Omega-6 脂肪酸。它是生成由 Omega-6 触发的局部组织激素的起始物，如前列腺素、血栓素和白三烯，这些激素都具有多种功能。总体功能是通过限制感染的进展或损伤的影响来保护身体免受伤害。

## 进行检测

**1. BalanceTest** 是经过批准、用于在家中个人血样采集的体外诊断产品。

**- 首先用肥皂洗手，然后用温水冲洗干净并擦干。**

从纸封中取出样本卡片。

保存纸封以供后续使用。

撕下样品卡片上的“**SAVE**” (保存) 部分，并拍张检测 ID 的照片。您只能使用您的个人检测 ID 查看您的检测结果。将样本卡放在桌上，有两个圆圈的那一面朝上。

**2. 用酒精擦拭和清洁指尖 (建议使用中指)。**

手臂划大圈或向下抖动手 20 秒，以**刺激血液流动**。将一次性刺血针取出。除去透明安全盖，刺血针即可使用。

**3. 面向桌上的采集纸，将刺血针放在指尖后半部的位置。**将刺血针的顶部对准手指推压，直到听到喀哒声。刺血针会自动在手指上刺一下。

**4. 请勿用手触摸滤纸圈。**轻轻地挤压手指若干次，在样本卡片上标记的每个圈中滴上至少 3 滴血。血液应完全充满圈的内部。

**5. 将样本卡片在室温下水平放置至少 10 分钟，以使样本充分干燥。**

**6. 将样本卡片重新插入药袋。然后将药袋放入金属袋中并合上。**

**重要提示:** 请勿去除金属袋内的干燥袋。

**7. 将密闭的金属袋放入带有实验室地址的大信封中。注意!** 在放入信箱之前，必须在信封上贴正确数量的邮票。

**8. 如需在线登记您的检测 ID，请访问 [www.zinzinotest.com](http://www.zinzinotest.com)。**

您以后可在该网站查看检测结果。您需要等待 10-20 天的时间才能得到结果。

**重要提示:** 保留卡片的“**SAVE**” (保存) 部分。您只能使用个人检测 ID 在互联网上查看检测结果。

