

What is ELISA?

The term ELISA stands for Enzyme Linked ImmunoSorbent Assay. This is a sensitive test that uses specific **antibodies to detect antibodies** and analytes in various biological samples. This powerful technique is used routinely in scientific research, veterinary medicine, healthcare, and environmental and agricultural applications.

什么是 ELISA?

术语 ELISA 表示酶联免疫吸附试验。它采用特异性抗体用来检测各种生物样品中抗体和待测物的一种高灵敏度实验。这种高端技术通常应用于科研，兽药，医疗保健，环境和农业应用。

What is a competitive ELISA?

In this assay format, a specific antibody is bound to the microwell plate. Enzyme labeled exogenous analyte is added to the microwell and competes with unlabeled (sample) endogenous analyte for limited antibody binding sites. After washing away excess reagents, a substrate is added to generate a detectable signal (color change). The signal generated is INVERSELY proportional to the level of analyte present in a sample.

什么是竞争性 ELISA?

在这一类型测定中，特异性抗体吸附于微孔板上。酶标记的待测物（抗原）被加入微孔中，并与未标记的（样品）待测物（抗原）竞争有限的抗体结合位点。洗去过量的试剂后，加入底物以产生可检测的信号（颜色变化）。产生的信号强度与样品中待测物含量成反比。

What is a sandwich ELISA?

Similar to the competitive assay, a specific antibody is bound to the microwell plate. The sample analyte is captured by the bound antibody in the absence of exogenous analyte. A secondary enzyme labeled antibody is added and binds to the captured analyte. After washing away excess reagents, a substrate is added to generate a color signal. The signal generated is DIRECTLY proportional to the level of analyte present in the sample.

什么是夹心 ELISA?

与竞争性 ELISA 类似，特异性抗体吸附于微孔板上。样品中待测物（抗原）被结合物抗体（既结合于微孔板上的抗体）所捕捉。酶标记二次抗体加入后与被捕获的待测物（抗原）结合。洗去剩余的试剂后，加入底物产生显色信号。产生的信号与存在于样品中的待测物含量成正比。

What ELISA kits does HELICA offer?

Helica Biosystems, Inc. offers a number of kits for measuring compounds that may be present in foods. These include mycotoxins and meat specific markers in both competitive ELISA assay and sandwich ELISA assay formats. In addition, we offer life science products, such as species specific C-reactive protein assays. Please view our website (www.helica.com) for a menu of kits currently available.

HELICA 公司提供哪些 ELISA 试剂盒?

Helica Biosystems 公司提供多种试剂盒用于检测可能存在于食品中的化合物。这些包括真菌毒素类和肉种类标志物等项目，分别具有竞争性 ELISA 和夹心 ELISA 检测形式。不久的将来我们将有食物过敏原 ELISA 试剂盒。此外，我们还提供生命科学产品，如物种特异 C-反应蛋白测定。请浏览我们的网站 (www.helica.com) 当前可用试剂盒菜单。

Helica supplies several different kits for the same mycotoxin. How do I select the correct kit for my needs?

The appropriate kit depends on the commodity to be tested and the range of detection required. Please check that the kit is appropriate for the commodity of interest and the desired range of detection. If a kit for your commodity of interest cannot be found, we recommend starting with our low matrix ELISA kits to validate your commodity of interest. These assays have been designed to minimize matrix interferences. Please contact us at info@helica.com or (714) 578-7830 for guidance in selecting the appropriate kit.

HELICA 公司提供几种不同的试剂盒检测同一种霉菌毒素。我该如何选择试剂盒?

这取决于需要测试的样品和该项目检测范围要求。请检查该试剂盒是否适用于您的样品和检测范围要求。如果未能找到适合您样品的试剂盒，我们建议您先用我们的低基质 ELISA 试剂盒验证您的样品。这些试剂盒的设计目的是为了最大限度地减少基质干扰。请联系 HELICA 公司 info@helica.com 或 (714) 578-7830，帮助您选择最适合的试剂盒。

Can the components from one kit be used in other kits?

Components from the same kit type with identical kit component lot numbers are interchangeable. However, interchanging components between kits should not be necessary as specific volumes of each component is provided and detailed in the product insert and Certificate of Analysis; therefore, there should be sufficient volumes of components for each kit.

某一试剂盒的组件能否用于其它试剂盒中?

同一种类且同一个批号的试剂盒组件是可以互换的。然而，试剂盒之间互换组件是没有必要的，由于试剂盒提供特定量的各个组件且明细列在产品说明书和质量报告上 (Certificate of

Analysis) ;因而，每个试剂盒有足够容量的组件。

What is the shelf-life of the kit?

The kit expires one year from the date of manufacture. We cannot guarantee the quality and performance of the kit beyond its expiration date.

试剂盒的保质期是多长时间？

试剂盒从生产之日起一年后将过期。我们不能保证超出其有效期限的试剂盒的质量和性能。

How many samples can be run with one kit?

Each kit is supplied with enough reagents to assay 42-43 samples in duplicate, depending on the number of standards included with the kit.

一个试剂盒能检测多少样品？

每个试剂盒都有足够容量的试剂供应，可以测定 42-43 样品一式两份，同时取决于包含在该试剂盒中的标准品数量。

Does the whole sample plate have to be used when an assay is run?

No, the plates are provided as 8-well break away strips. Use only the number of wells required for an assay and store the remaining wells in the original sealed pouch with desiccant at 2-8°C.

使用试剂盒时需要一次性用完一整板么？

不需要。微孔板的设计是由可分拆的 8-孔板条组成。取出单次检测所需数量的测定微孔，其余微孔储存于带有干燥剂的原密封袋中，储存温度为 2-8°C。

Can the incubation times for an assay be changed?

No, the incubation times should not be altered. The kit reagents have been validated for the incubation times specified. The assay should be performed exactly as directed in the product insert, so please read the product insert in its entirety before starting the assay.

检测过程中孵育时间可以改变么？

不可以，孵育时间不应改变。试剂盒试剂所相应的孵育时间是经严格验证过的。实验操作过程应完全执行产品说明书要求，所以开始试验之前，请完整地阅读产品说明书。

What if I want to extend the standard curve beyond the provided range?

The standard curves generated from the provided standard samples have been extensively validated for reproducibility and linearity. Any values extrapolated outside the standard curve range cannot be guaranteed or supported. Samples that fall beyond the standard curve should be diluted appropriately according to the product insert.

可以延长标准曲线至超出试剂盒检测范围么？

使用试剂盒所提供的标准品产生的标准曲线重复性及线性度已被广泛验证过。超出标准曲线范围之外的任何值都不能得到保证或支持。超出标准曲线范围的样品应当根据产品说明书适当的进行稀释。

What kind of samples can be assayed with Helica kits?

Many different types of samples have been validated for use with Helica kits, including different grains, flours, cake mixes, nuts, coffee, spices, etc. Refer to the product insert for a list of validated samples. If a sample type is not listed, please contact Helica Biosystems, Inc. at info@helica.com or (714) 578-7830 to discuss your needs. We will be happy to discuss the potential of validating your sample(s) of interest.

哪些样本可以用 HELICA 试剂盒检测？

多个不同类型的样品已被验证可以用 HELICA 试剂盒检测，包括不同的谷物，面粉，蛋糕粉，坚果，咖啡，香料等，请参阅产品说明书中通过验证样品明细列表。如果某一样品类型未列出，请联系 HELICA 公司 info@helica.com 或 (714) 578-7830，以便探讨您的需求。

我们将很荣幸能够与您探讨关于您感兴趣的样品 (S) 的验证事宜。

How do I prepare samples for assay?

The product insert included with each kit provides detailed instructions on how to perform the extractions and dilutions necessary to prepare samples for the assay.

我该如何制备检测样本？

产品说明书包含于每个试剂盒中，说明书提供了用于制备测试样品所需要的提取和稀释详细说明。

I am having trouble running the assay and/or getting unusable results. Can you help me?

Refer to our troubleshooting guide for common assay performance issues and solutions.

我在检测过程中遇到了问题/或得到了无效的结果。你能帮助我吗？

请参考我们的故障排除指南中所列常见检测性能问题和解决方案。

How can I be sure that the assay is working properly?

Check the OD or %B/Bo values of the standards obtained in the assay against the ones listed on the Certificate of Analysis. These values should be in the range specified by the Certificate of Analysis. Additionally, certified reference materials with known concentrations of the analyte can be assayed with the kit and the results should fall within the concentration range specified by the reference material.

我怎么能肯定整个检测过程是正确的？

将实验所得标准品 OD 值或 B/B₀% 值与分析报告 (Certificate of Analysis) 中列出标准值核对。这些值应该处在分析报告 (Certificate of Analysis) 给出的范围内。另外，已知浓度的待测物标准物质可用于试剂盒检测过程中，其结果应落在标准物质给出的浓度范围之内。

What is the purpose of the differential filter and is it required for running the assay?

In our assays, the test wavelength is 450nm and the reference wavelength is 630nm. Most microplate readers with the appropriate software will subtract the reference wavelength from the test wavelength absorbance. In doing this, the dual wavelength analysis is subtracting out any non-wavelength specific imperfections (optical imperfections) in the plate. This analysis should result in better precision. But in practice, the optical quality of plates used in our assays is superior, and there is typically no statistical improvement in the data by doing a dual wavelength analysis. Thus, it is not absolutely necessary to have a differential filter of 630nm.

使用不同滤光片的目的是什么，它是实验所必需的么？

在我们的测定法中，测试波长为 450nm，参比波长是 630nm。多数酶标仪具有相应的软件能将测试波长吸光度值减去参比波长吸光度值。在这一过程中，双波长分析法减去了微孔板上任何非特定波长的缺陷（光学缺陷），从而得到更好的精度。在实践中，我们试剂盒所提供的微孔板光学质量优越，并且通常双波长分析法数据没有统计学改进。因此，并非一定要有 630nm 滤光片。

What is matrix interference and how do I eliminate it?

Matrix interference occurs when components in the commodity affect the ELISA, resulting in either false negative or false positive results. The interfering component typically alters enzyme activity or interrupts antigen-antibody interaction. Helica Biosystems, Inc. offers several low matrix kits that reduce or eliminate the matrix effect, giving more accurate and reproducible results. Please contact Helica Biosystems, Inc. at info@helica.com or (714) 578-7830 to receive further information.

什么是基质干扰，我怎么消除呢？

当样品成分影响 ELISA 实验时会产生基质干扰，导致假阴性或假阳性结果。干扰成分通常改变酶活性或中断抗原-抗体反映。HELICA 公司提供了几种低基质试剂盒以减少或消除基质效应，从而提供更准确和重复性好的结果。请联系 HELICA 公司 info@helica.com 或 (714) 578-7830，以获得更多的信息。

What is the “hook effect”?

The hook effect is when lower than expected values are seen for a known high concentration sample. It happens when the antigen or analyte of interest is at a significantly higher concentration than the capture and detection antibodies. Due to the high level of analyte, the capture and detection antibodies are saturated with antigen and the antibody-antigen “sandwich” is prevented from forming. The antigen saturated detection antibodies are washed away giving false low signal. This is corrected by further diluting the sample.

什么是“钩状效应”？

钩状效应是指一个已知高浓度样品的检测结果较低于预期值。它发生于当抗原或待测物浓度显著高于捕获物和检测抗体浓度时。由于待测物的高水平，捕获物和检测抗体饱和于抗原，抑制了抗体-抗原“夹心”成形。饱和于抗原的检测抗体被冲洗走并提供虚假低信号。这个问题可以通过进一步稀释样品进行校正。

I am looking for a kit that detects a target that is not part of your current list of products. Do you develop custom assays?

Yes, we work with our customers to develop customized ELISA. Please contact Helica Biosystems, Inc. at info@helica.com or (714) 578-7830 to discuss your needs.

您目前的产品清单中没有我寻找的检测某一目标物的试剂盒。你们开发定制实验么？

是的，我们与客户合作开发定制 ELISA 试剂盒。请联系 HELICA 公司 info@helica.com 或 (714) 578-7830，以便讨论您的需求。

I don't want to buy the kit, but I have samples I would like to have tested. Do you provide testing services?

Yes, we provide in-house testing of samples. Please contact Helica Biosystems, Inc. at info@helica.com or (714) 578-7830 to discuss your needs and for pricing information.

我不想买试剂盒，但我有样品需要测试。您提供测试服务么？

是的，我们提供室内样品测试服务。请联系 HELICA 公司 info@helica.com 或 (714) 578-7830，讨论您的需求并获得价格信息。

How consistent are the kits from lot to lot?

Helica Biosystems, Inc. implements a stringent quality control program to ensure that each kit produced adheres to the highest standards. Every kit comes with a Certificate of Analysis to certify the performance of the assay. Additionally, Helica Biosystems, Inc. is ISO 9001 and ISO 13845 certified and conforms to internationally recognized quality standards.

不同批次之间的试剂盒稳定性如何？

HELICA 公司执行严格的质量控制体系以确保生产的每一个试剂盒都符合最高标准。每个试

试剂盒都附带了分析报告 (Certificate of Analysis) 以证明其检测性能。此外 , HELICA 公司获得了 ISO9001 和 ISO13845 认证 , 并符合国际公认的质量标准。

What are the benefits of ELISAs over other quantification methods, such as lateral flow and high performance liquid chromatography (HPLC)?

The chart below lists some of the advantages and disadvantages of each technique. ELISA combines some of the best characteristics of lateral flow and HPLC. ELISA is easy to use, doesn't require sample clean-up, permits high-throughput screening of samples, and has the same sensitivity and specificity as HPLC. Our kits show good correlation with HPLC results. For more detailed information, view the package insert containing validation data for each kit.

与其它的定量方法如胶体金和高效液相色谱 (HPLC) 法相比较, ELISA 法的优点是哪些?

下图列出了每种技术的一些优点和缺点。ELISA 结合了胶体金和 HPLC 的一些最佳性能。

ELISA 易于使用, 不需要样品净化, 允许样品的高通量筛选, 并且具有与 HPLC 相同的灵敏度和特异性。我们的试剂盒显示出与 HPLC 结果良好的相关性。有关详细信息, 请查看包含验证数据的每一试剂盒的说明书。

	HPLC	ELISA	胶体金
优点	高灵敏度	简单易用	使用最简单
	高精确度和重复性	廉价	廉价
		没有净化程序和富集过程	没有净化程序和富集过程
		快速获得结果<2 小时	几分钟内出结果
		高通量	
		高灵敏度	
		高精度	
缺点		高特异性	
	需要熟练的技术人员	基质效应	定性或半定量结果
	设备昂贵		精确度和灵敏度差
	需要样品净化和预浓缩		
	劳动密集型		

Why should I choose Helica Biosystems, Inc. ELISA kits over other competitors?

Our kits are easy and straight forward to use with color coded bottles and solutions to reduce operator error. Many advantages over our competitors include short incubation times (most assays take less than 1hr to complete), easy sample preparation procedures, minimal matrix interference to yield the most accurate results, 1 year shelf-life, and superior sensitivity. Additionally, we offer discounts to academic institutions and very competitive pricing. Please inquire by contacting us at info@helica.com or (714) 578-7830.

我为什么要选择 HELICA 公司的 ELISA 试剂盒, 而不是其他厂家的?

我们的试剂盒简单，可直接使用，使用了以颜色区分的瓶子和试剂以减少操作错误。与竞争对手相比较我们有很多优点，包括孵育时间短（大多数检测不到 1 小时即可完成），制样过程简单，最低的基质干扰以产生最精确的结果，1 年的保质期，以及卓越的灵敏度。此外，我们为学术机构提供折扣优惠和极具竞争力的价格。通过 info@helica.com 或 (714) 578-7830 与我们联系，请来电咨询。

I purchased multiple kits of the same type, but am observing large variability with OD values and %B/Bo range between kits. What should I do?

Each kit lot is individually validated following our established quality control system. Though kits may differ with OD and %B/Bo values, they are acceptable if the values fall within the range listed on the Certificate of Analysis that accompanied that kit.

我购买了同一个项目的多个试剂盒，但我观察到试剂盒之间的 OD 值和 B/B₀% 有较大差异。我应该怎么办？

每个批次的试剂盒都按照我们既定的质量控制管理体系经过独立验证。虽然试剂盒之间可能有不同的 OD 值和 B/B₀% 值，但是如果结果数值落在试剂盒附带的分析报告 (Certificate of Analysis) 所列出的范围之内它们是可以接受的。

Is there a specific software or statistical analysis technique that is required for assay analysis?

We can provide an Excel sheet to calculate the concentration of analyte in the samples. Please email us at info@helica.com to request this Excel sheet. Keep in mind that the formulas used in the Excel sheet are based on a linear regression fit, which is only accurate when the fitted line shows good overlap with the standard curve. For more accurate results, we recommend using a 4 parameter logistic (4PL) non-linear regression model for graphing the data and extrapolating sample concentrations. There are a number of free programs online that can perform the analysis. Please contact us at info@helica.com or (714) 578-7830 for more help on analyzing your data.

是否有分析结果的特定软件或统计分析技术？

我们可以提供一种 Excel 表来计算样品中待测物的浓度。如需要该 Excel 表格请发邮件给我们 info@helica.com。请记住，该 Excel 表中使用的公式是基于线性回归，只有当拟合线呈现与标准曲线良好重叠时是精确的。为了更准确的结果，我们建议使用四参数拟合方程 (4PL) 的非线性回归模型绘制数据图形，并推断样品浓度。网上有一些免费程序可以用于该分析。请联系 info@helica.com 或 (714) 578-7830 为你的数据分析获得更多的帮助。