

## **YEHUDA Sherlock Holmes 4.0 Achieves 100% Lab Grown Diamond Detection Rate with ASSURE 2.0 Testing**

There have been some questions about the terminology we at YEHUDA use to describe the Sherlock Holmes 4.0 performance in the ASSURE 2.0 Program, since the terminology ASSURE uses is different. **Without a doubt, the data we provide is correct. The Sherlock Holmes 4.0 successfully detected 100% of all the lab-grown diamonds in all four ASSURE 2.0 test samples.**

First, it is critical to recognize that the ASSURE 2.0 Program uses the term "Diamond Verification Instruments," while at YEHUDA we refer to our instrument as a "Lab-Grown Diamond Detector." As I'll explain in detail below, this is an important difference that must first be understood. YEHUDA's primary goal with its verification instrument is to detect lab-grown diamonds, while ASSURE focuses on verifying natural diamonds.

At YEHUDA, since we are focused on detecting lab grown diamonds, when we refer to a **"100% Detection Rate"**, we are describing what ASSURE calls a **"0% Diamond False Positive Rate"**. The data is identical; it's simply a matter of perspective.

To clarify: a "100% Detection Rate" in YEHUDA's terminology is equivalent to a "0% Diamond False Positive Rate" in ASSURE terms. We believe our terminology is more straightforward, as our primary objective is to ensure that those in the industry know exactly what they're testing.

Another term we use differently is "False Positive Rate." In the YEHUDA system, since we are focused on identifying lab grown diamonds, our terminology describes a "False Positive" as when a natural diamond is incorrectly identified as a lab-grown diamond. A 0% False Positive rate score is the ideal outcome. ASSURE uses the term "Diamond Accuracy," and a 100% "Diamond Accuracy" means that all natural diamonds are correctly identified as natural.

In ASSURE terms, **100% "Diamond Accuracy"** is equivalent to a **0% "False Positive"** rate in the YEHUDA system. Once again, at YEHUDA we believe the term "False Positive" as we use it is clearer and more intuitive.

ASSURE also uses the term "Refer," while at YEHUDA we do not. A "Refer" result means the device cannot determine whether it is a natural or lab-grown diamond. This typically contrasts with the "Diamond Accuracy" rate. For instance, if the "Diamond Accuracy" rate is 95%, the "Refer" rate would likely be 5%.

At YEHUDA, we also do not use the term "Refer" because it conceptually overlaps with Diamond Accuracy. If a device returns a "Refer" result, it means the diamond cannot be identified and must be sent to a lab for verification.

While the ASSURE terminology is scientifically accurate, at YEHUDA we find it can be more difficult to understand for the layperson or non-scientific community. YEHUDA

respects the ASSURE Program but prefers using simpler terms such as Detection Rate and False Positive rate as we use it, which we believe more clearly describes the Sherlock Holmes 4.0 capabilities.

At YEHUDA we generally avoid comparing our device to others, but since we are often asked about the differences, here's an overview: Among detectors capable of testing multiple stones at once, only the DeBeers SYNTHdetect and the YEHUDA Sherlock Holmes 4.0 achieved a 100% lab grown diamond detection rate (or as ASSURE calls it, a 0% Diamond False Positive Rate).

**Only two** other manufacturers of diamond verification instruments in this class submitted their devices for testing in the ASSURE 2.0 Program. But they did not achieve this perfect score. In other words, **those instruments could not identify some lab-grown diamonds and therefore cannot provide full protection.**

The average "False Positive" rate for the Sherlock Holmes 4.0 across the four test samples was 2.5%. If using the ASSURE terminology, it would be 97.5% "Diamond Accuracy" rate.

There are approximately 10 other manufacturers of diamond verification instruments in this category that chose not to submit them to the ASSURE 2.0 Program for testing. One could easily draw the conclusion that they chose not to because they are aware of the performance limitations of their instruments.

In the category of single-stone detectors, most achieved a 100% lab grown diamond detection rate (or in ASSURE terms a 0% diamond "False Positive" rate). However, it is important to note that **many** of these devices had a significantly higher "False Positive" rate, usually around 10%. **In the ASSURE terms, this would correspond to about 90% Diamond Accuracy or a 10% "Refer" rate.** This "Refer" means that in these single-stone detectors, around 10% of natural diamonds were referred or determined incorrectly as lab-grown diamonds. In those cases, you would need to send the stones to a lab for confirmation. **Can you imagine attempting to verify a stone in front of a customer and 10% of the time not being sure whether it is lab-grown or natural diamond?**

For further clarity, here are the ASSURE terms directly from their website:

### **The ASSURE Program: Measuring Performance**

All instruments are evaluated with the following performance metrics:

1. **Diamond False Positive Rate:** The ratio of synthetic diamonds and diamond simulants mistakenly classified as natural diamonds. The optimal rate is 0%.
2. **Diamond Referral Rate:** The ratio of diamonds categorized as 'refer' or 'referral' to the total number of diamonds. The optimal rate is 0%.
3. **Diamond Accuracy:** The ratio of diamonds correctly categorized as natural diamonds to the total number of diamonds. The optimal rate is 100%.

With ASSURE 2.0, all instruments are operated by a novice to simulate the results expected from a new user having received the standard training provided by the manufacturer.

**YEHUDA Terminology:**

1. **Detection Rate:** The ratio of lab-grown diamonds correctly identified as lab-grown diamonds. The optimal rate is 100%.
2. **Diamond Referral Rate:** Yehuda does not use this term at all.
3. **False Positive Rate:** The ratio of natural diamonds mistakenly identified as lab-grown diamonds. The optimal rate is 0%.

We hope this detailed explanation clarifies any confusion. We highly recommend visiting the ASSURE website to review the data for yourself or please do not hesitate to contact us at YEHUDA for any further assistance we may provide.