## Vetscan Imagyst AI Dermatology

Infectious Agent Semi-Quantitative Category Overview

The Vetscan Imagyst AI Dermatology application delivers AI-driven dermatologic cytology analysis, providing critical data to inform, diagnose, and treat. It analyzes skin impression smears, ear swabs, and skin swabs to provide consistent results comparable to expert clinical pathologists, regardless of personnel, training, and microscopic performance.<sup>1</sup> The AI technology identifies the presence of bacteria, yeast (*Malassezia sp.*.), and inflammatory cells to aid in diagnosing infection, so veterinary staff can spend more time with patients.

On the Vetscan Imagyst AI Dermatology report, the inflammatory cells are qualitatively reported as present or not present. Infectious agents, including cocci, rods, and yeast (*Malassezia sp.*), are reported as none to rare (NTR), 1+, 2+, or 3+ on a semi-quantitative scale. The semi-quantitative categories for the algorithm were determined by comparing the consensus results of three blinded board-certified Veterinary Clinical Pathologists (CPs) with the algorithm results. The algorithm evaluated every area in the 20 x 20 mm scan area to get a qualitative result which was then correlated to the CPs semi-quantitative grade.

In the below sections, you can see the number of elements for each infectious agent semi-quantitative category and an example of an area (40x) from a whole slide image representative of the classified category.

## **Cocci Bacteria**



| Semi-Quantitative Category | Algorithm Count*    |
|----------------------------|---------------------|
| NTR                        | 0 - 199             |
| 1+                         | 200 - 2,066         |
| 2+                         | 2,067 - 10,869      |
| 3+                         | Greater than 10,869 |

### **Rod Bacteria**



| Semi-Quantitative Category | Algorithm Count*   |
|----------------------------|--------------------|
| NTR                        | O - 11             |
| 1+                         | 12 - 109           |
| 2+                         | 110 – 1,169        |
| 3+                         | Greater than 1,169 |





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#### Yeast



| Semi-Quantitative Category | Algorithm Count*   |
|----------------------------|--------------------|
| NTR                        | 0 - 3              |
| 1+                         | 4 - 252            |
| 2+                         | 253 - 1,018        |
| 3+                         | Greater than 1,018 |

The semi-quantitative values provided by the Vetscan Imagyst for the infectious agents provide a consistent, thorough, and accurate<sup>1,2</sup> evaluation of the scan area, with results comparable to expert clinical pathologists. **The microscopic findings from a cytological evaluation should always be interpreted considering the clinical findings from the patient.**<sup>3</sup> Efficient analysis with the Vetscan Imagyst provides the ability to streamline workflow in veterinary hospitals and get accurate<sup>1,2</sup>, detailed reports to simplify conversations with pet owners.

#### References

1. Zoetis Data on File. Study Report No. DHX6Z-US-23-222

2. Zoetis Data on File. Study Report No. DHX6Z-US-23-226

**3.** Fisher D. 2020. Cutaneous and Subcutaneous Lesions. In: *Cowell and Tyler's Diagnostic Cytology and Hematology of the Dog and Cat.* 5th edition. p. 74. Images: Vetscan Imagyst

\*Algorithm counts as compared to a 20 x 20 mm scan area. If scan area is decreased, the semi-quantitative ranges will change (decrease) due to less FOVs being evaluated. If the scan area is increased, the semi-quantitative ranges will change (increase).

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