

# IDEXX inVue Dx Ear Cytology Quick Reference Guide



## Sample collection tips

- + **Do not clean the ears before swabbing.** Cleaning may remove critical sample material and compromise cell stability.
- + **Use standard cotton-tipped swabs with a wooden shaft.** Avoid swabs with paper or hollow, plastic shafts – they may absorb the sample or dissolve in the diluent, causing analyser errors.

## Preparing ear swab samples for the IDEXX inVue Dx\* Cellular Analyser

Proper sample preparation with an IDEXX inVue Dx\* Ear Cytology QuickPrep Kit is essential. Follow these steps to ensure the highest volume of ear swab elements are included in the analysed sample:

1. Remove the foil seal from a sample tube.
2. Add the sample to the tube:
  - a. **Firmly twist the swab against the inner walls and between the plastic ribs of the tube repeatedly.** No visible sample should remain on the swab.
  - b. **Use the swab to break up any large sample clumps and liquify the sample in the tube.** The sample should be evenly dispersed in the diluent.
  - c. **Squeeze the swab tip with the neck of the tube to wring it out,** ensuring the full sample remains in the tube. When you remove the swab, the tip should appear worn, mostly dry and light in colour.
3. Remove the foil seal from the reagent cap and push the cap onto the sample tube until the cap is flush with the tube top.
4. Invert the tube 5–10 times (do not shake) until the reagent is fully dissolved. Shaking can cause excessive bubbles and lead to analyser errors.
5. Twist off the tab on top of the cap and **empty the tube contents into the applicable cartridge port** (left or right), ensuring that no liquid remains in the tube. The volume and colour of the sample mixture will vary from sample to sample.
6. Repeat steps 1–5 for the other ear sample. Then, insert the cartridge into the analyser and press the **Start** button.

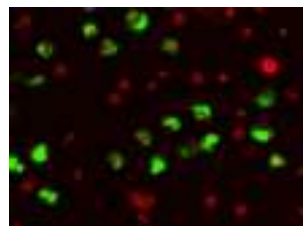


## Reviewing IDEXX inVue Dx analyser results

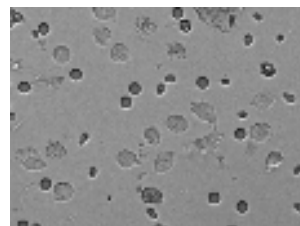
1. Evaluate the quantitative/qualitative results: Yeast and bacteria are shared as: 0 (none to trace), 1+ (few), 2+ (moderate), and 3–4+ (numerous) per medical norm<sup>1</sup>; white blood cells (WBCs) and mites are noted as present or absent.
2. Review the diagnostic considerations under the images for information to consider alongside clinical and sample observations from the patient.
3. Explore the image gallery, which features key analyser findings as a part of the complete results. Images are a visual representation of the IDEXX inVue Dx analyser's results and **do not require clinical interpretation**. Similar to pathology reports from a reference laboratory, the images can help explain a diagnosis to pet owners.



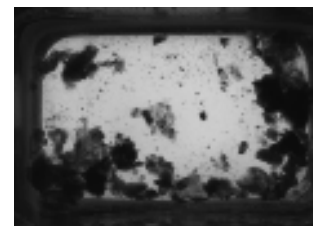
Bacteria Assessment



Yeast and WBC Assessment (Composite)



Yeast and WBC Assessment (Brightfield)



Mites Assessment

## How IDEXX inVue Dx is different from glass slide analysis

Here are just some of the characteristics that set the IDEXX inVue Dx analyser apart from glass slide analysis:

- + The IDEXX inVue Dx analyser evaluates **thousands of cells across more fields of view** than traditional ear cytology methods.
- + By leveraging a custom staining process and exposing cells to multiple wavelengths of light, the analyser **captures unique cellular characteristics undetectable by traditional methods**.
- + The IDEXX inVue Dx analyser method is **consistent, objective and repeatable, removing the subjectivity** of interpreting slides.

## The challenge in comparing IDEXX inVue Dx results with glass slide results

**It's not recommended** to compare IDEXX inVue Dx analyser ear cytology results with glass slide results because:

- + Each methodology relies on different principles and levels of precision, and has inherently different sources of error.
- + Research on the glass slide method demonstrates:
  - Disagreement among two examiners reading the same slide.
  - Two slides from the same swab often do not include the same number of elements.
  - Two separate swabs from the same ear often show low levels of agreement or have discordant results.<sup>2</sup>
  - Manual slide stains can be contaminated with residual yeast and/or bacteria.

**IMPORTANT:** Although it is not recommended, if you still choose to compare glass slides with your IDEXX inVue Dx ear cytology results, always:

- + Understand that the **results will not match precisely**.
- + Use the same swab for both methods and recognise that **the volume of elements may differ in each** (typically the first method captures more elements than the second method).
- + Visually compare your results to the IDEXX inVue Dx image gallery. It can provide confirmation of the printed results. For example, if the semiquantitative value for bacteria is 0–1+ (normal), you may see a small number of green dots in the image. This indicates that the analyser saw a low-level presence of bacteria (of either kind reported).

## Frequently asked questions

**When I initiate an ear cytology run on my IDEXX VetLab\* Station, I see optional fields that include observations of clinical signs, visit type, etc. How does providing this information impact results?**

This information will provide additional diagnostic insights and will be integrated into the patient record.

**Why do I sometimes see dashes (--) in my patient's results?**

Dashes (--) indicate suppressed results, which may be due to sample quality issues, such as debris or highly degraded cells.

**What are the round objects in my sample images?**

The round objects (which are red in the composite view and clear in the brightfield view) are focus beads, which are a part of the reagent system that helps the IDEXX inVue Dx analyser to focus on the sample.

### References

<sup>1</sup> Ginel PJ, Lucena R, Rodriguez JC, Ortega J. A semiquantitative cytological evaluation of normal and pathological samples from the external ear canal of dogs and cats. *Vet Dermatol* 2002;13:151–6.

<sup>2</sup> Lehner G, Sauter Louis C, Mueller RS. Reproducibility of ear cytology in dogs with otitis externa. *Veterinary Record* 2010;167:23–26.