

A Veterinarian's Guide to the SediVue Dx Analyzer



Evaluating results

With each patient sample, the SediVue Dx* Urine Sediment Analyzer captures 70 high-resolution digital images equivalent to 45 high-power fields of view (40× microscope objective) and evaluates these images to provide quantitative (white blood cells and red blood cells [WBCs and RBCs]) and semiquantitative results in these categories of concentration:

Element type	Parameter	Image tag	Reported results					
Blood cells	WBC	WBC	None detected	<1/HPF	Quantitative numerical result/HPF			>50/HPF
	RBC	RBC						
Bacteria [†]	Rods	N/A [†]	None detected	Suspect presence	Present			
	Cocci							
Epithelial cells	Squamous	sqEPI	None detected	<1/HPF	1–2/HPF	3–5/HPF	6–10/HPF	>10/HPF
	Nonsquamous	nsEPI						
Casts	Hyaline	HYA	None detected	Suspect presence	>1/LPF			
	Nonhyaline (e.g., granular, waxy)	nhCST						
Crystals	Unclassified (all other crystals)	CRY	None detected	<1/HPF	1–5/HPF	6–20/HPF	21–50/HPF	>50/HPF
	Calcium oxalate dihydrate	CaOxDi						
	Struvites	STR						
	Ammonium biurate	AmmBi						
	Bilirubin	BILI						

*Image tags not available.

None detected—This indicates that an element has not been detected, or there are not enough recognizable features to classify.

<1/HPF—This indicates that there are some features found in the sample; however, the numbers are rare and below the clinical reporting threshold.

Suspect presence—This indicates that there are some recognizable features of an element (cocci, rods, casts) present; however, there are not enough features, or quantity, to report as “present.”

Present—There is high confidence in the presence of bacteria in the sample.

For more information about the SediVue Dx analyzer, visit idexx.com/library or idexx.com/sedivueresources.

Reviewing messages

The patient report may include sample messages that follow the numerical results to provide further insight or guide you to recommended next steps. Here's a list of the more common result messages (a complete list can be found in the SediVue Dx* certificate course and the operator's guide, available at idexx.com/library).

Images crowded. Review images to determine next step and perform one of the following:

- **When images provide clinical insight: No dilution needed, add comments to patient record.**
- **Moderate amount of cells or crystalline material: Dilute 1:5 with 0.9% normal saline and rerun.**
- **Marked amount of cells or crystalline material: Dilute 1:10 with 0.9% normal saline and rerun.**

This message indicates the sample was crowded with overlapping elements and running a diluted sample may be recommended. In this case, results will be suppressed; however, if the images provide clinical insight, a dilution is not necessary and comments can be added to the patient report.

Review images to confirm results.

This message indicates the analyzer was not able to verify the quality of focus in some of the images. This may occur when the sample has very little sediment (e.g., "normal" samples) or air bubbles or because the analyzer is dirty. Results are provided with an asterisk. If the expected results do not align with the image review, rerun the sample. If this message appears with several consecutive samples, the analyzer may require cleaning.

Confirm bacteria with one of the following: image review; SediVue Bacteria Confirmation Kit; air-dried, stained cytological preparation ("dry prep"); or urine culture.

This message occurs when the bacteria result is "suspect presence." Both manual and automated urine sediment analysis provide inherent challenges when evaluating for the presence or absence of bacteria as debris commonly found in canine and feline urine can confound results. If bacteriuria is suspected (e.g., patient clinical signs/history, presence of WBCs, etc.) and images provide clear insight into the absence or presence of bacteria, you may feel confident in your decision to move on and may consider notating the patient record. If images do not show clear evidence of bacteriuria, it may be necessary to perform additional confirmatory methods. We recommend starting with the SediVue* Bacteria Confirmation Kit. Other options include a dry-slide sediment cytology (dry prep) or a urine culture.

Note: Multiple runs from the same patient ID within a 24-hour period will be invoiced only once.

Crystalline debris detected.

Crystalline debris can be abundant and variable in size. Due to background density, the presence of large amounts of crystalline debris can affect the identification of other formed elements in the sample—especially bacteria. When this flag is present, you should be more discerning about the bacteria result, as very small particles of debris can resemble bacteria.

Reviewing images

Reviewing images will validate the numerical data provided and supplement the SediVue Dx analysis. Viewing the first 3–6 images should provide you with enough information to arrive at a consensus of results. The top three prioritized images become a permanent part of the patient record and are transmitted to VetConnect* PLUS. **You may select up to 3 additional images to be saved to the patient record.**

Image prioritization

Each of the 70 SediVue Dx images is scanned by the convolutional neural network (a complex pattern-recognition software algorithm), to identify, classify, and count the formed elements. **Each image is given a score based on the absence or presence of formed elements and the clinical significance of each element found.** The images are then sorted, with the highest scoring images displayed first and the lowest scoring images displayed last.

Viewing an image

When reviewing the images, it's best to view one image at a time to avoid missing important details. Use the large arrows to scroll through the images. **Reverse the contrast** to see details such as cell nuclei, **zoom in** to see smaller elements, and **turn the image tags on or off**. Select an image to add to the patient record, or print an area of interest.

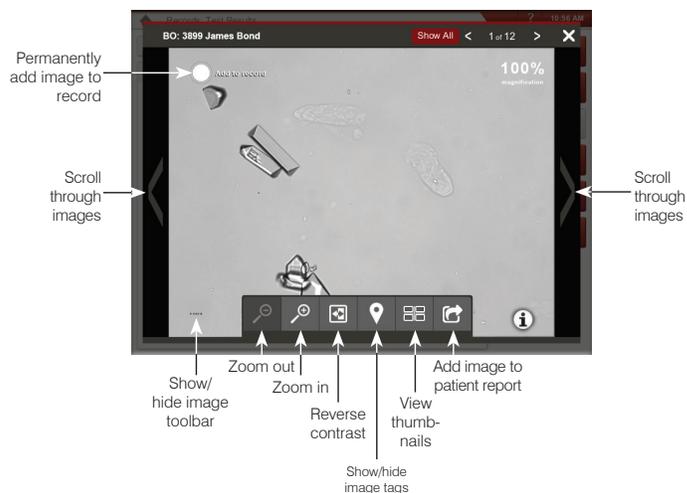


Image tags

Image tags will not be available if the image has been flagged as a crowded sample or if the sample is from a species or sample type that has not been validated.

Adding comments

Noteworthy findings may be manually added to the patient report and are sent to VetConnect PLUS and the practice management system.

For more information about the SediVue Dx analyzer, including how to run the bacteria confirmation kit or perform a dry prep, visit idexx.com/library or idexx.com/sedivueresources.