



# VM100 - AI Morphology Analyzer

Beyond a Laser **CBC** analyzer



## ● Multi-Functional VM100

- **AI**-powered Morphology Analyzer
- 3-in-1 : **CBC** hematology , **Urine** sediment & Microscope **Cytology**



VM100  
Morphology

=



CBC Laser  
Hematology

+



Urine  
Sediment

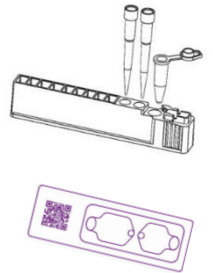
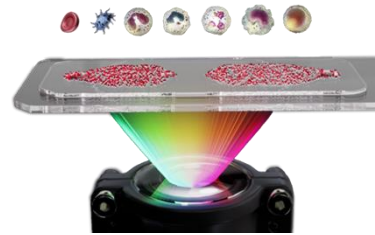
+



Microscope  
Cytology  
(blood, urine, feces)

## ● Advantage to Traditional CBC

- **8-diff** CBC Hematology with photos for identification
- **RETIC** , NRBC with automatic staining
- Maintenance **Free**, No valve or pipe inside
- Cartridge base, **no** liquid consumable & fully automatic
- Long shelf-life (**18** months) consumable in room temp storage (30°C)
- Convincible Analysis **Report** , with cells photos, name & clinical comment
- **Gold** Standard method : Smear Preparation + Microscopic photos + AI classification

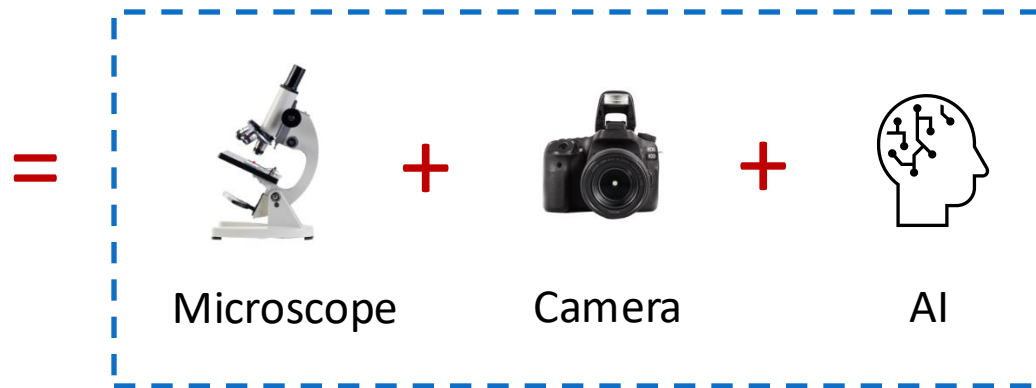


## ● Beyond a CBC analyzer

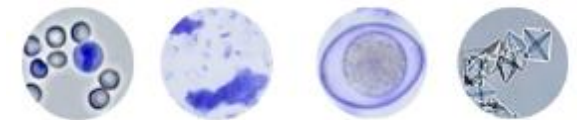
- **Morphology** : Microscopic photos in wider-view & high-resolution
- Automated Sample Handling, Staining & Smear (no heating plate in manual)



VM100



- **Blood** CBC Hematology 47 parameters : WBC 19 , RBC 20 (with RET) , PLT 8
- **Urine** Sediment 29 parameters : crystal, casts, bacteria, cells...
- **Feces** morphology 29 parameter : parasite eggs ...



# ● Convincible Analysis Report

➤ Result data with photos & names & clinic interpretation

## Blood CBC & morphology report

**Test Report of Hematology Analysis**

Pet name: maldj      Pet type: Canine      Gender: Female  
 Medical Record No.: 20250730555      Report time: 2025-07-30 10:54:32

**Test result data**

Testing results	Reference range
NEU#	5.05-16.76
NST#	2.95-11.64
NSG#	0.00-0.80
NSH#	2.50-11.30
LYM#	0.00-0.40
MON#	1.05-5.10
EOS#	
BAS#	

**Histograms**      Report of Hematology Analysis

**Morphological view**

**Distribution images (WBC)**

**Distribution images (RBC&PLT)**

**Clinical Significance**

Individual Diagnosis  
 1. [NEU#]      [NEU#] is a common in cases of inflammation, blood diseases, malignant tumors, stress, infections (viral, bacterial, parasitic, etc.), tissue necrosis, poisoning, etc.  
 2. [NST#]      [NST#] is a common in cases of bacterial infections, poisoning (drug, insect, snake, stress, stress, infection), chronic inflammatory diseases/hemiparesis, etc.  
 3. [NSG#]      [NSG#] is a common in cases of bacterial infections, poisoning (drug, insect, snake, stress, stress, infection), chronic inflammatory diseases/hemiparesis, etc.  
 4. [NSH#]      [NSH#] is a common in cases of stress, acute (Stress (acute/chronic)) and chronic inflammation, necessary acute diseases, suppurative inflammation, use of glucocorticoid drugs, etc.  
 5. [LYM#]      [LYM#] is a common in cases of infections, acute/chronic hemiparesis, anemia, hemiparesis, anemia, deficiency anemia, etc.  
 6. [MON#]      [MON#] is a common in cases of infections, acute/chronic hemiparesis, anemia, hemiparesis, anemia, deficiency anemia, etc.  
 7. [EOS#]      [EOS#] is a common in cases of infections, severe hypochromic anemia, acute/chronic hemiparesis, anemia, hemiparesis, anemia, deficiency anemia, etc.  
 8. [BAS#]      [BAS#] is a common in cases of myeloproliferative diseases, e.g., megakaryoblastic anemia, vitamin B12 and folic acid deficiency, certain bone marrow disorders, and bone marrow disorders.

## Urine & Feces report

**Stool Formed Elements Analysis Report**

Pet name: maick      Medical Record No.: 202507305      Report time: 2025-07-30 10:41:29

**Microbiota map**

**ANE**      Concentration: 0.13 Cells/LPF

**SPI**      Concentration: 0.06 Cells/LPF

**CCDD**      Concentration: 0.06 Cells/LPF

**Test Report of Urine Analysis**

Pet name: jack      Medical Record No.: 20250730      Report time: 2025-07-30 10:06:30

**Urine sediment**

**MAP**      Concentration: 0.28 Cells/HFP

**CDD**      Concentration: 0.02 Cells/HFP

**RBC**      Concentration: 0.04 Cells/HFP

- **VM100 3x Higher Resolution, Dual-Color Staining**

**VM100**

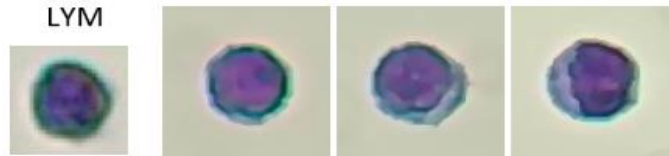
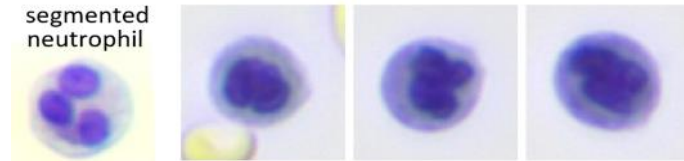
High-Res + Dual Staining → Clear cells  
 Different orientation/overlap  
 → Recognition still Strong

**AwaLife**

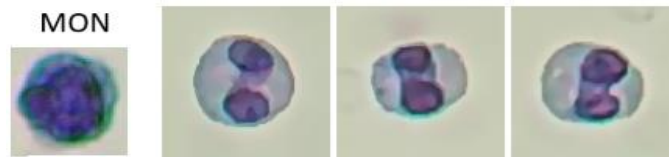
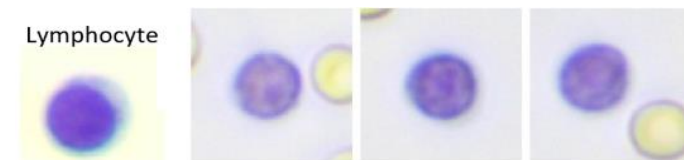
Single Staining → Cells less clear  
 Different orientation/overlap  
 → Possible Misread



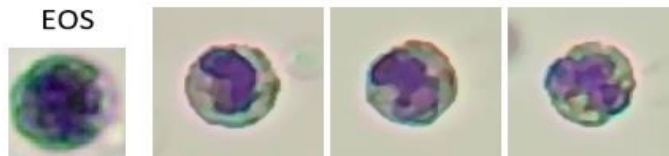
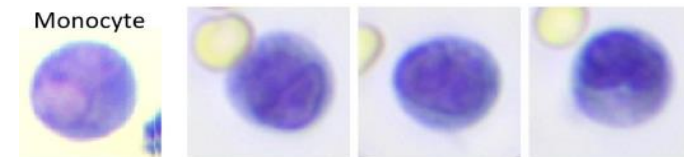
VS



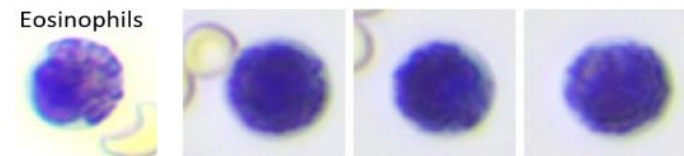
VS



VS



VS



# ● VM100 Advantage of Auto-Focus

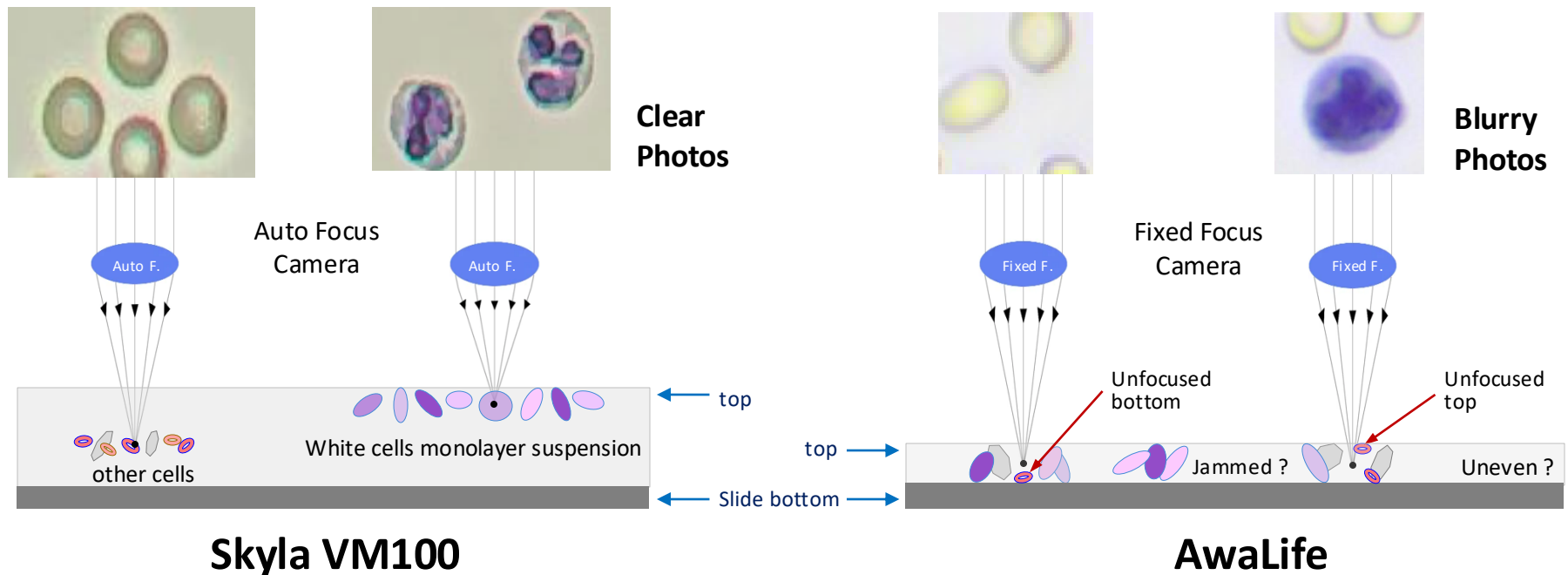
✓ **Auto-Focus** with unique **Monolayer Cell Suspension** tech.

➔ **Evenly dispersed cells minimize overlap for clear imaging**

AwaLife may cause uneven cell distribution.

✓ **Auto-Focus** ➔ **Resistant to minor vibrations during imaging**


AwaLife Fixed-focus camera: vibrations may blur images (e.g., centrifugation on the same desk).



# ● skyla VM100 vs AwaLife AI-100vet

	skyla VM100	AwaLife AI-100Vet
<b>Digital Scope Resolution</b>	<b>Auto-Focus</b> , 18x lens, <b>3x</b> Aperture High-Resolution : <b>0.6</b> μm/pixel	Fixed-Focus, 40x lens Resolution : 1.8μm/pixel
<b>Staining</b>	<b>Automatic Dual</b> Staining Automatic <b>Temp. Control</b> @28°C → <b>High Cell Recognition</b>	Manual Single Staining No Temp. Control by an external heating board → Cell could be misjudged
<b>Pros Cons</b>	Unique <b>Monolayer Cell Suspension</b> tech. Wider view, Well-sampled photos. <b>Clear</b> cell images	Old method: channel width forms a cell monolayer Possible uneven cell distribution Blurry cell images
<b>Shelf Life</b>	<b>18</b> months	12 months

## ● Comparison with Competitors

	 skyla VM100	Other morphology	Laser 5/6-diff CBC
<b>Functions</b>	Blood 8-diff WBC Urine & Feces morphology*	Blood 8-diff WBC Urine & Feces morphology	Blood 5/6-diff WBC -
<b>RETIC</b>	RETIC, NBRBC, ghost	RETIC, NBRBC, ghost	Depends
<b>Methodology Resolution</b>	Digital Microscope + AI <b>Auto-Focus</b> , Hi-Res <b>0.6μm/pixel</b>	Digital Microscope + AI Fixed-Focus, 1.8μm/pixel	Laser Scattering to Classify cells size
<b>Staining</b>	<b>Automatic Dual-staining</b> with <b>Automatic Temp.</b> control @28°C	Manual single-staining with an external heating board	Manual or Automatic
<b>Pros Cons</b>	<b>Clear cell images</b> New Monolayer cell <b>suspension</b> Tech Wider view, <b>well-sampled</b> photos	Blurry cell images Old method forms cell monolayer Possible uneven cell distribution	Good in precision with old Tech Can't distinguish NRBCs, LYM, rod-shape-NEU, PLT-aggregate
<b>Analysis Report</b>	Data, cell photos, name, clinic interpretation	Data, cell photos, name, clinic interpretation	Data, histograms, Scattergrams
<b>Maintenance</b>	<b>No need</b>	Adjust focus if needed	Daily wash & calibration
<b>Consumable</b>	<b>Auto-staining</b> Cartridge & slide	Manual staining tubes & slide	4~5 bottles of liquid, waste tank
<b>Shelf-Life</b>	<b>18</b> month	12 months	3~6 months after opened

## ● VM100 -- More Parameters than Traditional CBC

Abbr.	Parameter	Clinical meaning
NST	Band Neutrophil	neutrophil nucleus shifted left.
NSG	Segmented Neutrophil	neutrophil nucleus shifted right, infectious inflammation, poisoning,
NSH	Hypersegmented Neutrophil	chronic inflammation, a disease recovery phase
ETG	Erythrocyte Ghost	RBC hemolysis, immune-mediated hemolytic diseases, intravascular hemolytic lesions
RET	Reticulocyte	Distinguishing between regenerative and nonregenerative anemias
NRBC	Nucleated Red Blood Cells	acute marrow response or abnormal erythropoiesis
SPH	Spherocyte	hemolytic diseases, autoimmune hemolytic anemia, neonatal hemolytic anemia etc.
AGG	Agglutinated Red Blood Cell	red blood cell agglutination, transfusion reactions, immune-mediated diseases, etc.
P-LCC	Large Platelet	thrombocytosis associated with myeloproliferative disorders, etc.
APLT	Aggregated platelets	sample has coagulated and there is azotemia

## ● VM100 -- More Parameters than Traditional Urine Sediment

Abbr.	Parameter	Clinical Meaning
WAC	Waxy Cast	chronic renal failure and tubular.
FC	Fatty Cast	nephrotic syndrome, chronic glomerulonephritis, and toxic nephropathy.
COMC	Calcium Oxalate Monohydrate Crystal	urinary stones and metabolic disorders; hyperoxaluria, hypercalciuria, ethylene glycol poisoning.
COD	Calcium Oxalate Dihydrate Crystal	stone formation and metabolic disorders. hypercalcemia, hypercarbonate, and hyperoxaluria.
CP	Calcium Phosphate Crystal	hypercalciuria or hyperphosphaturia.
CYSC	Cystine Crystal	inherited cystine metabolism defects
BiIC	Bilirubin Crystal	Obstructive jaundice, hepatocellular jaundice, and acute phosphorus poisoning.
RTE	Renal Tubular Epithelial Cell	Tubular diseases such as ischemic, nephrotoxic, or degenerative kidney disorders.
TEC	Transitional Epithelial Cell	Urinary tract infection, mechanical trauma, chemical irritation, spontaneous inflammation, or urinary tract tumors.
SPE	Spermatozoon	Indicates presence of sperm in the urine
SAC	Saccharomyces	Common in cases of underlying urinary disease or diabetes-related glycosuria.
FAT	Fat Droplet	obese pets, those with cystitis, hypothyroidism, diabetes, or catheterized samples.
PHL	Mucus Filament	urinary tract inflammation.

# ● Detail Parameters List

## ➤ Blood Test Parameters

	Description of parameter	Abbr.
1	<b>Red blood cell</b>	<b>RBC</b>
2	Hemoglobin	HGB
3	Hematocrit	HCT
4	Mean Corpuscular Volume	MCV
5	Mean Corpuscular Hemoglobin	MCH
6	Mean Corpuscular Hemoglobin Concentration	MCHC
7	Red Cell Distribution Width - Coefficient of Variation	RDW-CV
8	Red Blood Cell Volume Distribution Width Standard Deviation	RDW-SD
9	Reticulocyte #	RET#
10	Reticulocyte %	RET%
11	Hemoglobin Distribution Width-Coefficient of Variation	HDW-CV
12	Hemoglobin Distribution width-standard deviation	HDW-SD
13	Erythrocyte Ghost#	ETG#
14	Erythrocyte Ghost%	ETG%
15	Nucleated Red Blood Cells #	NRBC#
16	Nucleated Red Blood Cells/White blood cell %	NRBC/WBC%
17	Nucleated Red Blood Cells/Red blood cell %	NRBC/RBC%
18	Spherocyte#	SPH#
19	Spherocyte%	SPH%
20	Agglutinated erythrocytes #	AGG#

	Description of parameter	Abbr.
1	<b>White blood cell</b>	<b>WBC</b>
2	Neutrophil #	NEU#
3	Neutrophilic granulocyte band form #	NST#
4	Neutrophilic segmented granulocyte #	NSG#
5	Neutrophilic polymorphonuclear leukocytes #	NSH#
6	Lymphocyte #	LYM#
7	Monocyte #	MON#
8	Eosinophil #	EOS#
9	Basophil #	BAS#
10	Neutrophil %	NEU%
11	Neutrophilic granulocyte band form/ White blood cell %	NST/WBC%
12	Neutrophilic granulocyte band form/ Neutrophil %	NST/NEU%
13	Neutrophilic segmented granulocyte%	NSG%
14	Neutrophilic polymorphonuclear leukocytes/ White blood cell %	NSH/WBC%
15	Neutrophilic polymorphonuclear leukocytes/ Neutrophil %	NSH/NEU%
16	Lymphocyte%	LYM%
17	Monocyte%	MON%
18	Eosinophil %	EOS%
19	Basophil %	BAS%

	Description of parameters	Abbr.
1	<b>Platelet</b>	<b>PLT</b>
2	Mean Platelet Volume	MPV
3	Platelet Distribution Width	PDW
4	Plateletcrit	PCT
5	Large Platelet Count	P-LCC
6	Large Platelet Ratio	P-LCR
7	Aggregated platelets #	APLT#
8	Platelet Volume Distribution Width	PDW-CV

# ● Detail Parameters List

## ➤ Urine Test Parameters

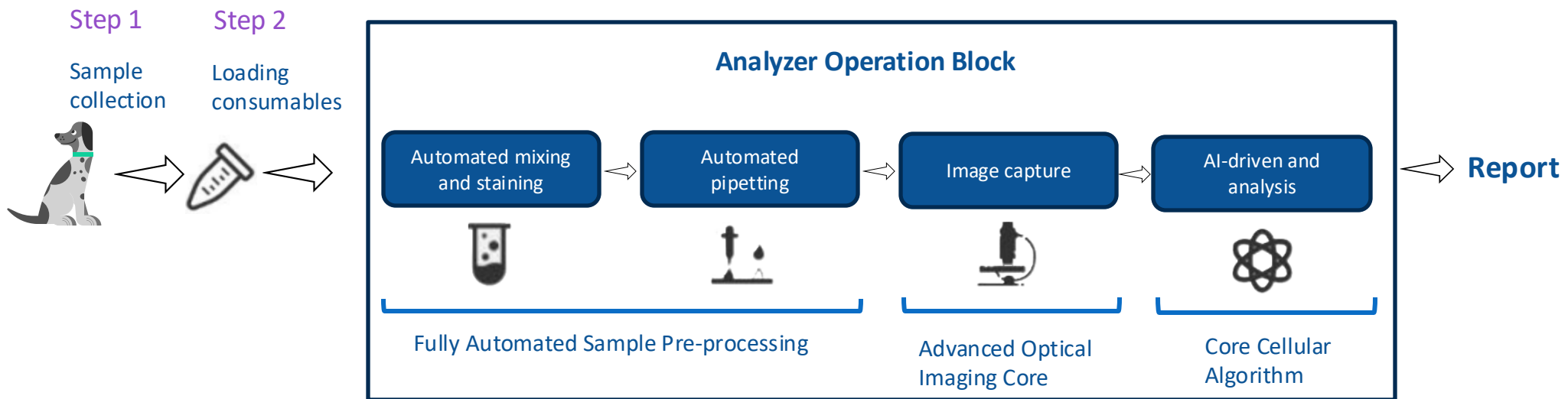
	Description of parameter	Abbr.
1	Transparent cast	HYA#
2	Red blood cell cast	RBC-C#
3	White blood cell cast	LC#
4	Renal tubular epithelial cell cast	RTC#
5	Particle cast	GRA#
6	Wax sample cast	WAC#
7	Fat cast	FC#
8	Blood cast	BC#
9	Magnesium ammonium phosphate crystal	MAP#
10	Calcium oxalate monohydrate crystal	COMC#
11	Calcium oxalate dihydrate crystal	COD#
12	Calcium phosphate crystal	CP#
13	Uric acid crystal	UAC#
14	Cystine crystal	CYSC#
15	Cholesterol crystal	CC#
16	Bilirubin crystal	BiLC#
17	Ammonium urate crystal	AUC#
18	Red blood cell	RBC#
19	White blood cell	WBC#
20	Renal tubular epithelial cell	RTE#
21	Squamous epithelial cell	SEC#
22	Transitional epithelial cell	TEC#
23	Sperm	SPE#
24	Cocci	COS#
25	Bacillus	BAC#
26	Yeast	SAC#
27	Mold	FUN#
28	Fat drop	FAT#
29	Mucus filament	PHL#

## ➤ Feces Test Parameters

	Description of parameter	Abbr.
1	Ascaris eggs	ALE#
2	Hookworm eggs	ANE#
3	Tapeworm eggs	CEE#
4	The eggs of the genus Polyporus are tapeworms	DIP#
5	The eggs of the genus Diegong belong to tapeworms	SPI#
6	Tapeworm shingles	TtE#
7	The eggs of the heavy winged fluke	TRE#
8	Trichomonas glabra	TRI#
9	Giardia lamblia	FLA#
10	Coccidia of the genus Isospora	COD#
11	Coccidia isospora 0	COD0#
12	Coccidia isospora 1	COD1#
13	Coccidia isospora 2	COD2#
14	Toxoplasma gondii	Tg#
15	Cocci	COS#
16	Bacillus	BACI#
17	Cocci/ Bacillus	C/B
18	Campylobacter	CAM#
19	Bacillus spore-forming	BAC#
20	Serpentine helix	SS1#
21	Helicobacter	SS2#
22	Yeast	YEA#
23	Red blood cell	RBC#
24	White blood cell	WBC#
25	Epithelial cell	EPC#
26	Starch granules	STA#
27	Lipid drop	LFAT#
28	Plant fiber	PLA#
29	Muscle fiber	AF#

## ● Product Advantages

- Versatility: Integrates multiple morphological tests onto a single platform
- Accuracy: AI-driven, reducing human error



### Two-Step User Operation:

- Collect the sample
- Insert the consumable cartridge

### Comprehensive Report Includes:

- Detailed parameter results
- High-resolution images of detected targets —

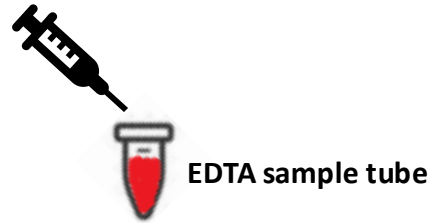
## ● Consumable introduction-Integrated test kit

### 2-Step Only :

- Collect the sample in Tube
- Insert the tube in the Test Kit & Load to start a test

<b>Reagent Shelf life</b>	18 months
<b>Storage condition</b>	5-30 °C

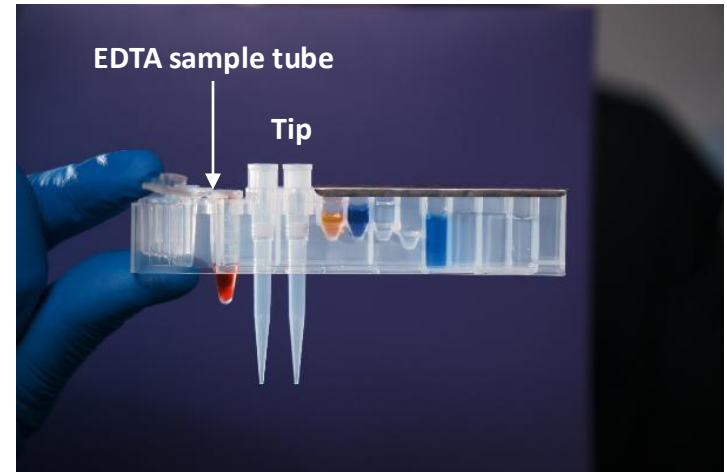
Step 1: Collect the sample



Step 2:  
Loading  
consumable



Counting plate

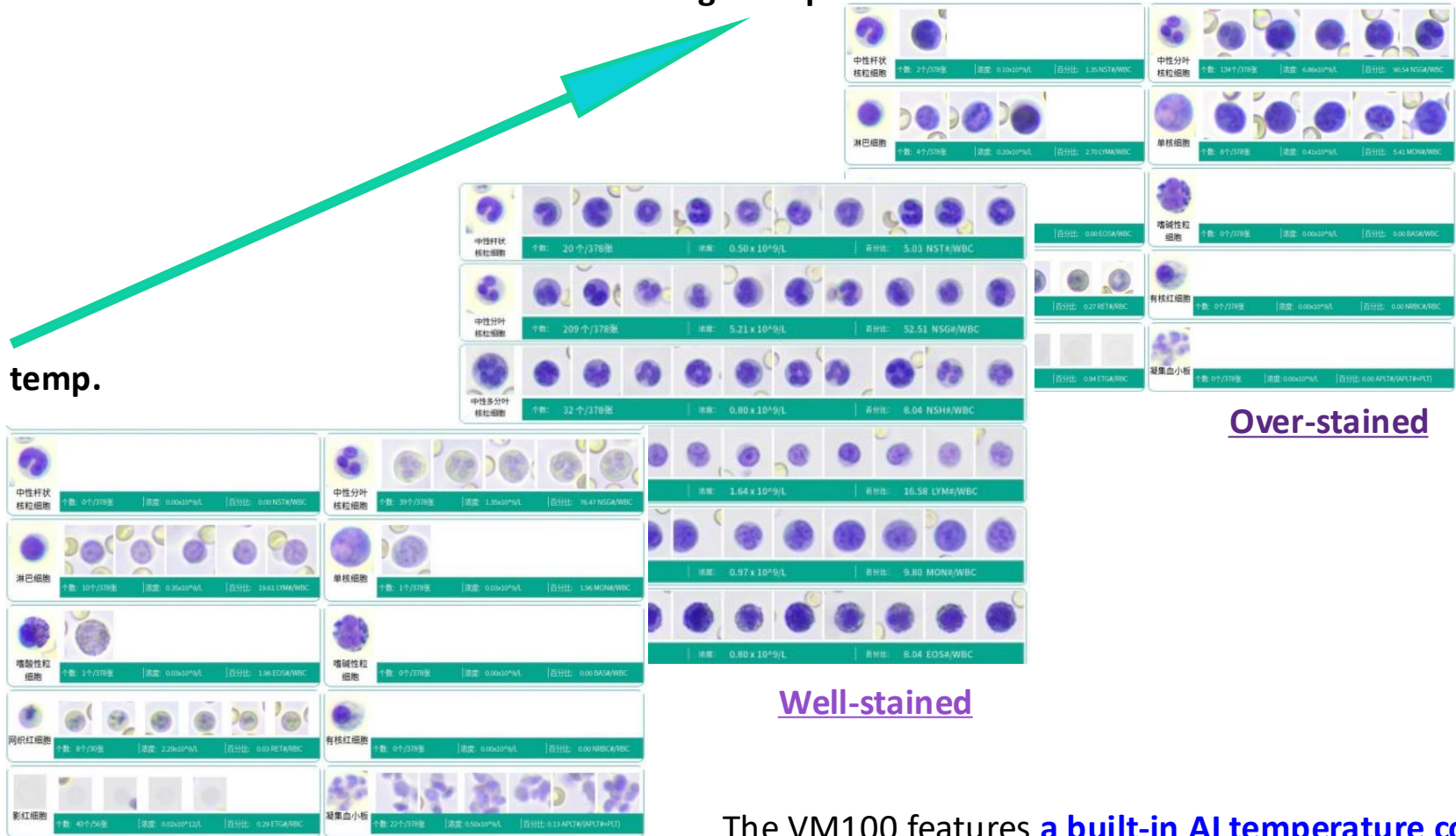


Test kit

# ● Temperature's impact on staining

High temp.

Low temp.



Over-stained

Well-stained

Under-stained

The VM100 features [a built-in AI temperature control system](#), which prevents misdiagnosis resulting from suboptimal staining caused by temperature fluctuations.

# ● Immediate Instrument Testing After Sample Collection



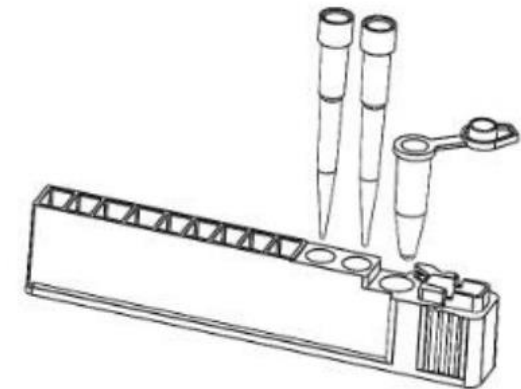
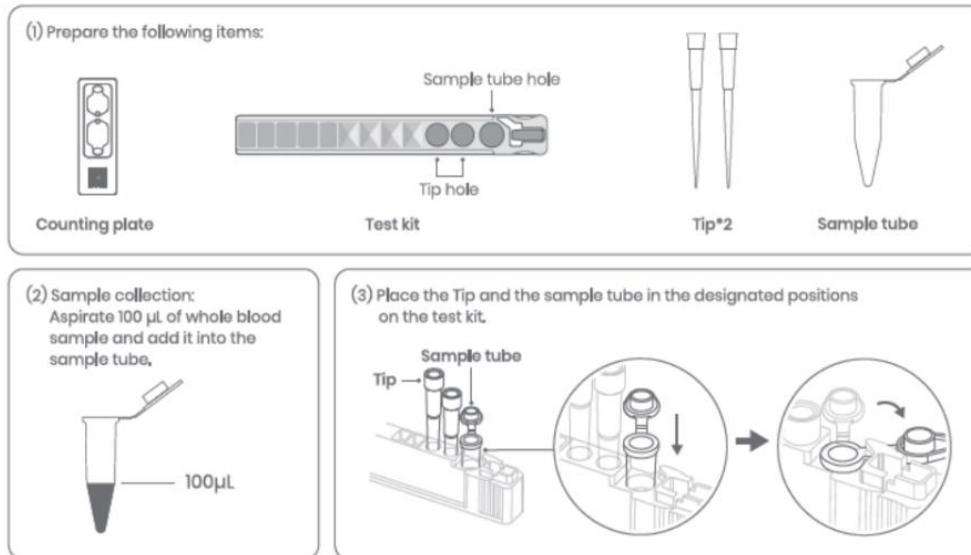
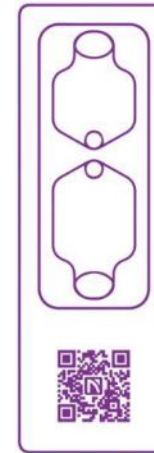
## Suspended Cell Technology

Ensures cells are evenly dispersed in a monolayer beneath the coverslip, minimizing overlap and maximizing visibility

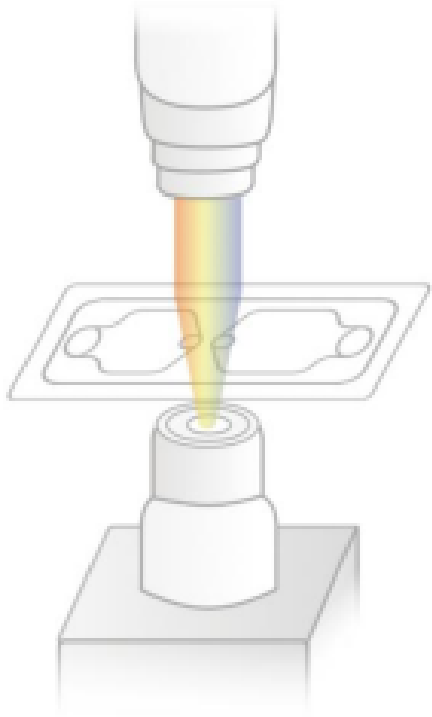


## Temp-Controlled Dual-Stain System

The liquid-phase thin-layer dual-staining process, supported by a temp-controlled system, ensures consistent dyeing, richer cell coloration, and reliable, high-quality diagnostic results.



## ● Image Acquisition – Ultra-High-Resolution Lens






**Super-resolution**  
🎯 0.6 $\mu$ m super-resolution enables the acquisition of high-definition images.

**Multi-spectral & High-resolution Imaging**  
🖼️ Effectively reveals the characteristics of substances and components under various spectra, providing Richer Cellular Insight

**AI Intelligent Focus**  
📷 Innovative intelligent focusing algorithm allows efficient, accurate, and rapid acquisition of clear images.

## ● Difference in AwaLife Models 2025Q3

	skyla VM100	Awalife AI-100Vet	Awalife AI-100 Elite (AI-90Vet)	Awalife AI-80Vet	Awalife AI-60Vet (China only ?)
Diff. in WBC/RBC/PLT	WBC 8 diff. RBC 5 diff. PLT 3 diff.	WBC 8 diff. RBC 5 diff. PLT 3 diff.	WBC 8 diff. RBC 5 diff. PLT 3 diff.	WBC 6 diff. RBC 3 diff. PLT 3 diff.	WBC 6 diff. RBC 3 diff. PLT 3 diff.
Sample Type & Parameters (include calculation)	Blood: 47 Urine: 29 Feces: 29 Ascites: X	Blood: 46 Urine: 21 Feces: 32 Ascites: 19	Blood: 46 Urine: 21 Feces: 32 Ascites: 19	Blood: 38 Urine: 21 Feces: 32 Ascites: X	Blood: 38 Urine: X Feces: 32 Ascites: X
Support Species	Canine Feline ... more*	Canine Feline Avian/Reptile	Canine Feline Avian/Reptile	Canine Feline	Canine Feline
Outlook	 skyla	 A	 B (smaller than A) in different color	