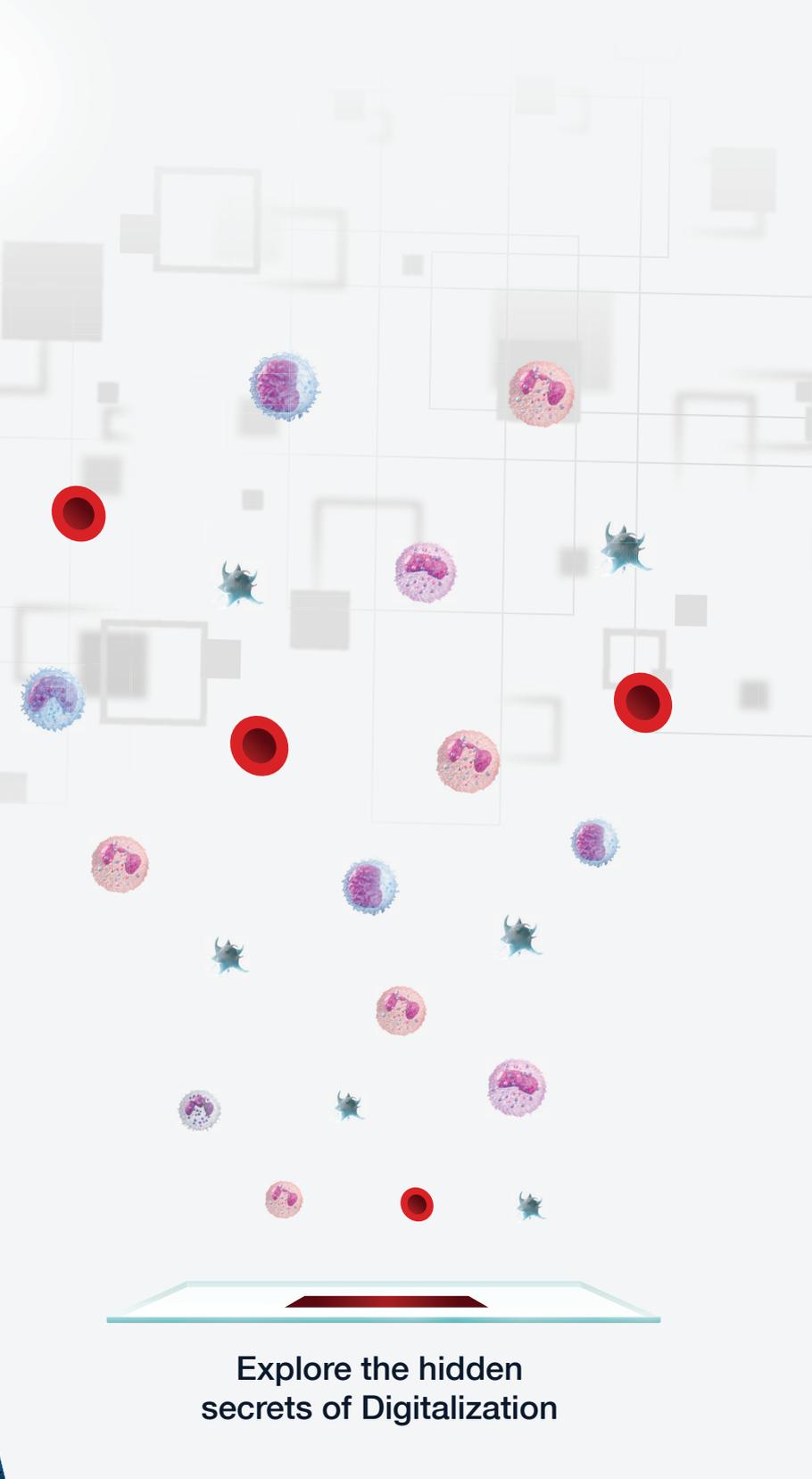
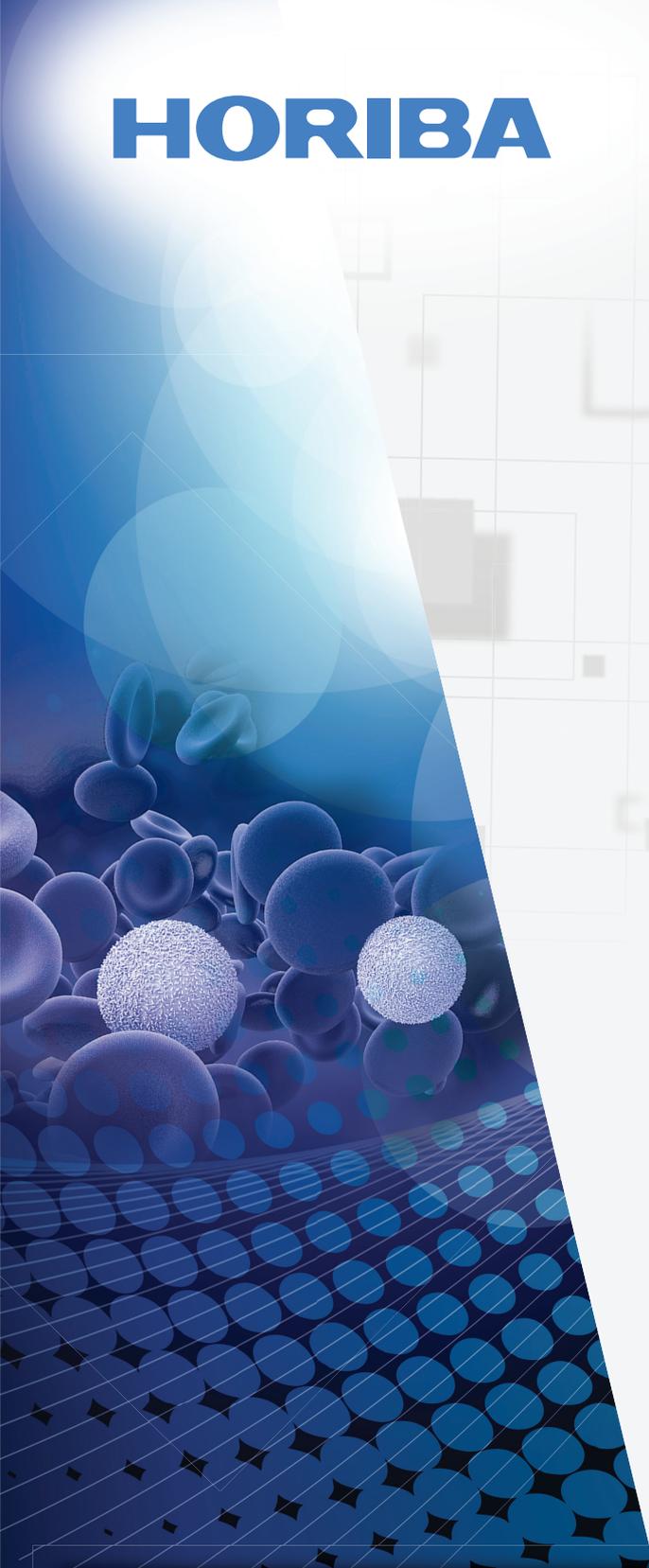


HORIBA



Explore the hidden
secrets of Digitalization



Analyze



Digitilize

Yumizen D20

A complete automated solution for urine
sedimentation and peripheral blood smear

Explore the future

HORIBA

One Device, Multiple Tests!



Yumizen D20

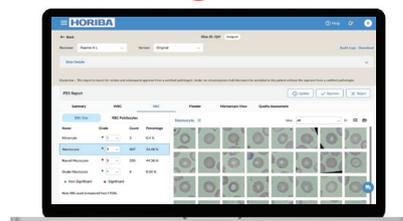
- AI-based device designed to automate manual microscopy in a diagnostic laboratory
- Decrease TAT of reporting smear with accuracy and efficiency
- Cloud based software for enormous data storage and report retrieval
- AI-based self maintenance and troubleshooting

Urine {SHRAVA}™



- Easy processing of sample with minimal human interventions
- Pre-classification on 7 different types of urine microscopic particles
- Centrifugation of urine sample is not required
- Real time view of sediment particle
- Increase the efficiency of urine analysis with visual evidence for reporting

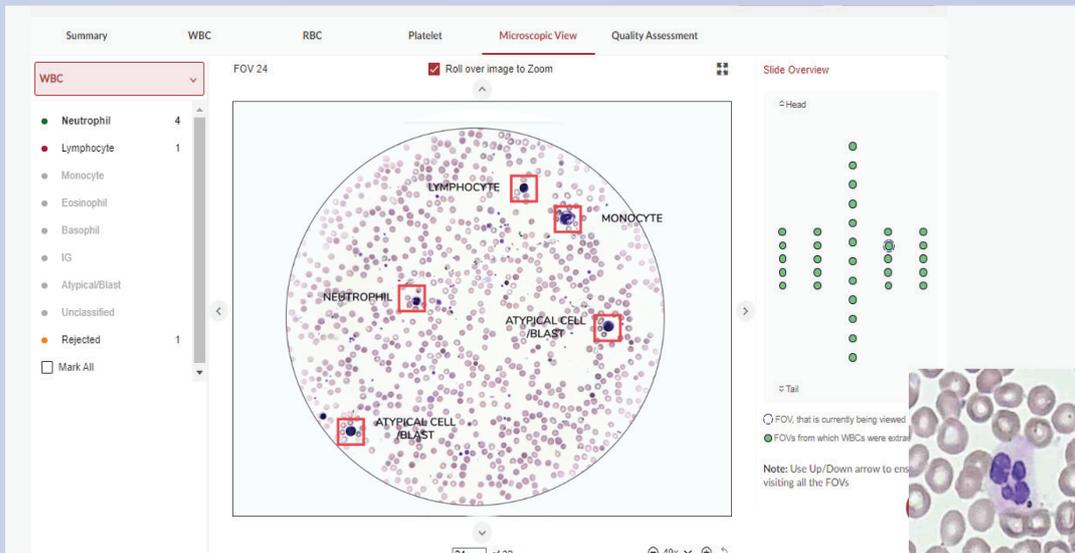
Blood {SHONIT}™



- Selection of monolayer through algorithm for peripheral blood smear
- Pre-classification of WBC, RBC and Platelet
- Selection of 100, 200 or 120 FOV for WBC identification
- Grading of RBC based on ICHS guidelines
- Identification of Platelets based on 10 FOV
- Identification of Malaria with visual evidence

Clinically validated to aid in cell detection

Microscopic View



Microscopic view to elaborate cell identified in FOV with color code to access the identified cell

PBS Report Download Print Report

Summary WBC RBC Platelet Microscopic View Quality Assessment

Count Morphology Platelet counts can be modified at FOV level as needed and clicking on 'Update' will save all the changes. Annotations

Name	Average Count/ 100X FOV	N	M	G
Normal Platelets (N)	9.5	FOV 1: 9	FOV 1: 1	FOV 1: 0
Macro Platelets ** (M)	0.4	FOV 2: 8	FOV 2: 0	FOV 2: 0
Giant Platelets (G)	0	FOV 3: 13	FOV 3: 1	FOV 3: 0
Total Platelets	9.9	FOV 4: 5	FOV 4: 0	FOV 4: 0
	Detected	FOV 5: 14	FOV 5: 0	FOV 5: 0
	Platelet clumps are detected. Platelet count might be underestimated	FOV 6: 9	FOV 6: 1	FOV 6: 0
		FOV 7: 11	FOV 7: 1	FOV 7: 0
		FOV 8: 9	FOV 8: 0	FOV 8: 0
		FOV 9: 5	FOV 9: 0	FOV 9: 0
		FOV 10: 12	FOV 10: 0	FOV 10: 0

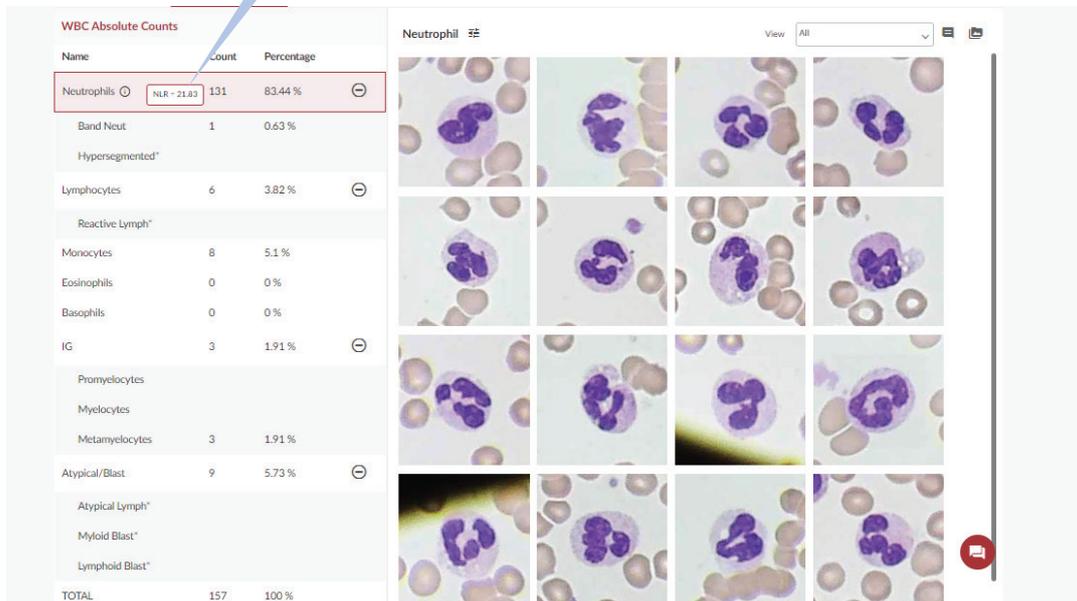
FOV 3 < 3 of 10 >

Area of the image is equivalent to the area of a 100x FOV

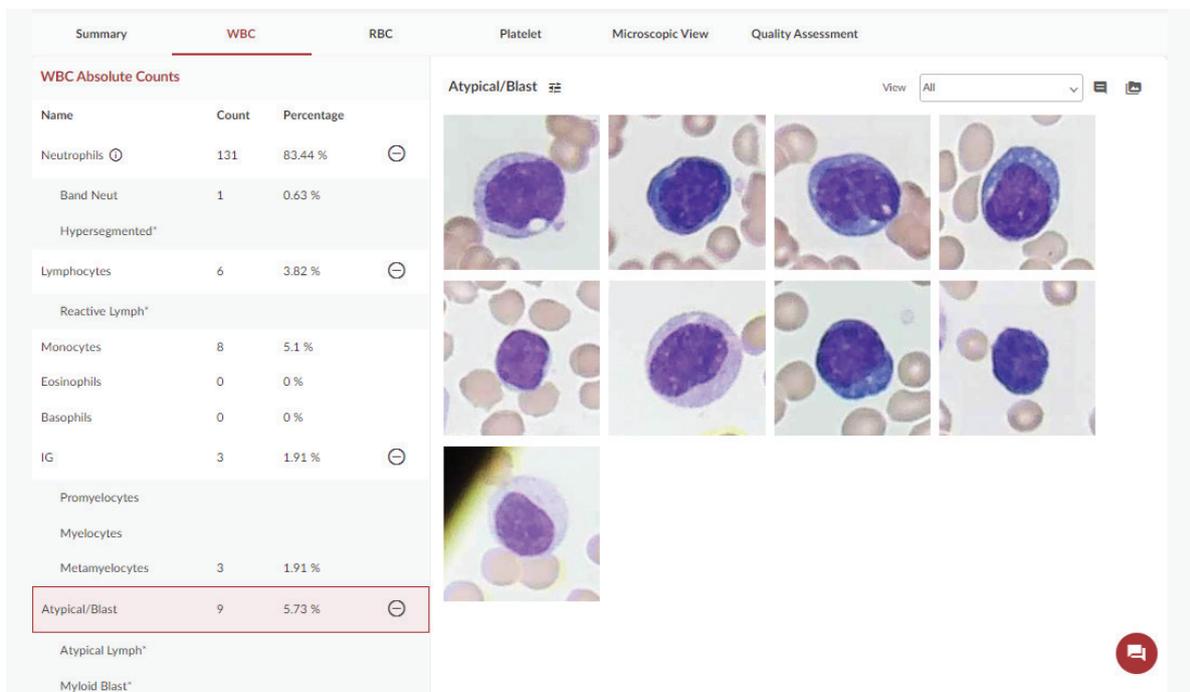
Platelet count with 10 FOV, can identify Giant platelet, Macro platelet and Platelet clumps

WBC Identification

NLR ratio
in WBC

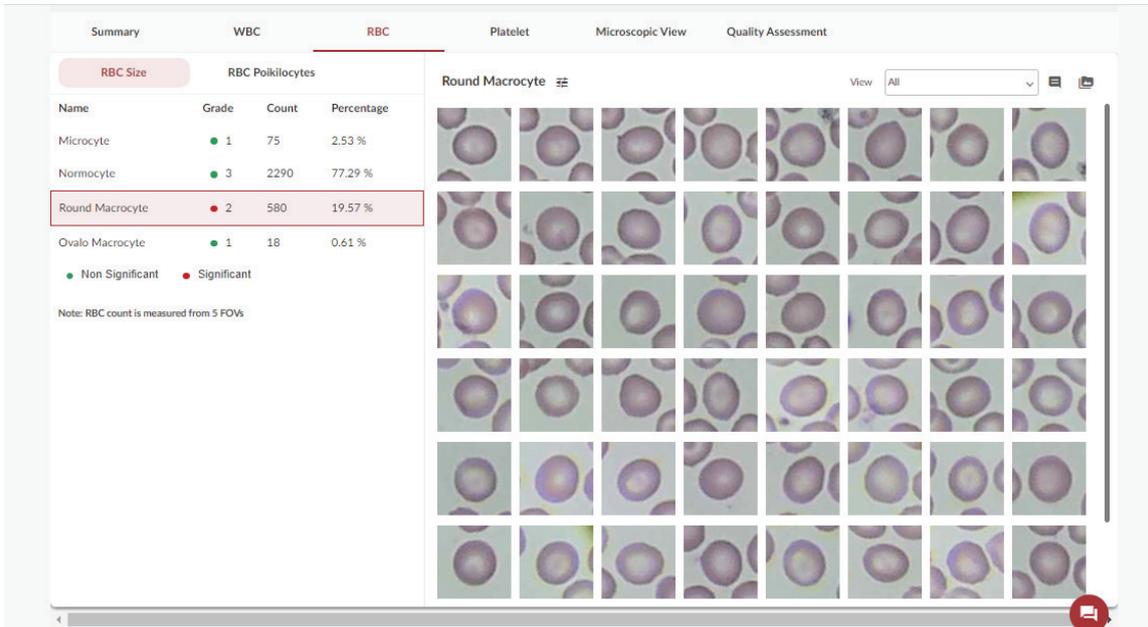


13 classification and sub-classification of WBC

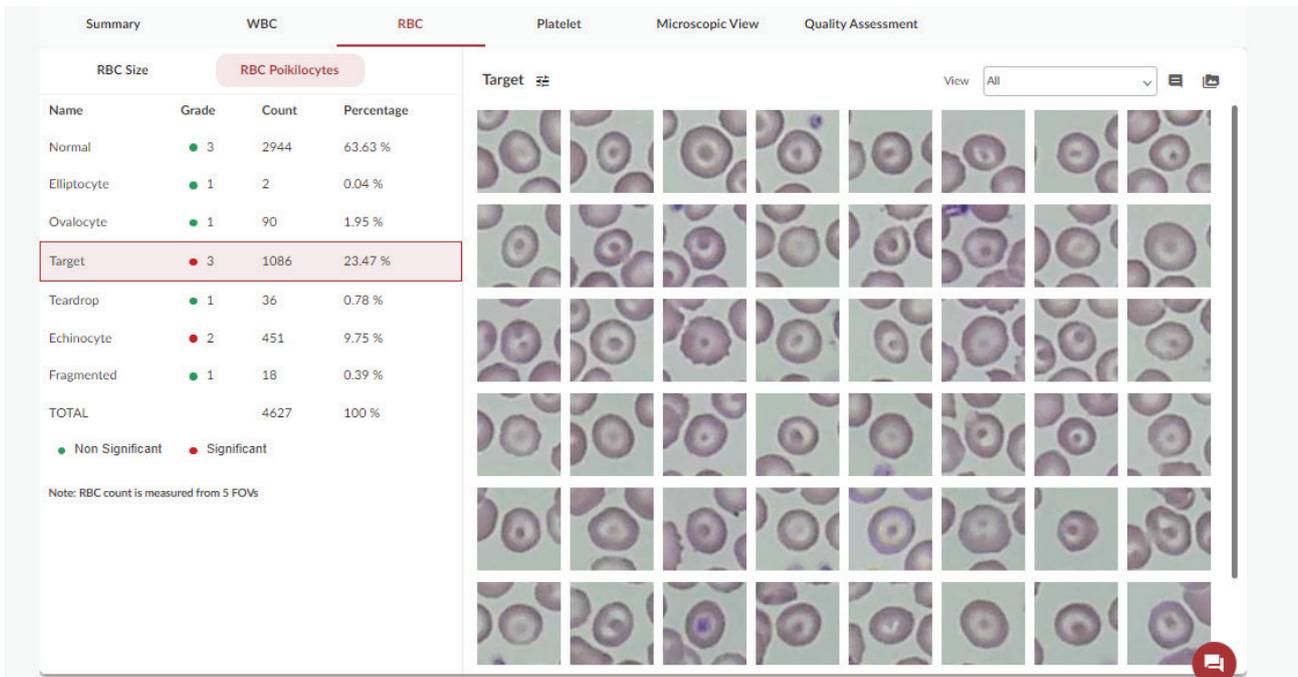


Identification of Blast in WBC module with visual evidence

RBC Identification

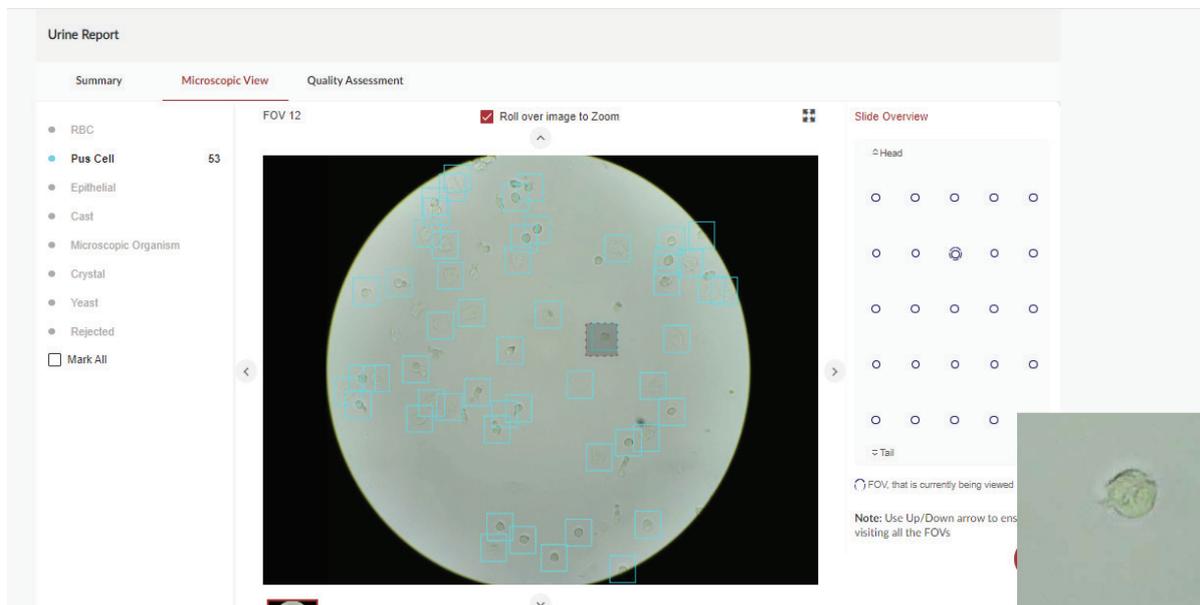


11 types of RBC pre-classification with ICSH guidelines for grading



Identification of Target cell, Echinocytes, Elliptocytes, Ovalocytes, Fragments

Scaling the Digitalization in Urine sedimentation



Microscopic view for real time view of sediments in urine

Name	Results	Ref Range	Grade
RBC	66	0-5/HPF	4+
PUS Cells	14	0-5/HPF	2+
Epithelial	D	ND	
Cast	D	ND	
Micro Org	9	0-1/HPF	3+
Crystal	D	ND	
Yeast	ND	ND	
Rejected	0		

● Normal ● Abnormal ● Reference
D - Detected ND - Not Detected

Identification of urine particles and pre-classification of 7 types of morphology detection based on AI

Scaling the Digitalization in Urine sedimentation

Urine Report

Summary Microscopic View Quality Assessment

Urine Microscopy Report

Name	Results	Ref Range	Grade
RBC	20	0-5/HPF	2+
PUS Cells	335	0-5/HPF	4+
Epithelial	D	ND	
Cast	ND	ND	
Micro Org	127	0-1/HPF	4+
Crystal	ND	ND	
Yeast	ND	ND	
Rejected	1		

● Normal ● Abnormal ● Reference
D - Detected ND - Not Detected

RBC

Pre-classification of sediment with result and grading as per guidelines

Urine Report

Download Print Report

Summary Microscopic View Quality Assessment

Urine Microscopy Report

Name	Results	Ref Range	Grade
RBC	2	0-5/HPF	NS
PUS Cells	772	0-5/HPF	4+
Epithelial	D	ND	
Cast	ND	ND	
Micro Org	29	0-1/HPF	4+
Crystal	ND	ND	
Yeast	ND	ND	
Rejected	0		

● Normal ● Abnormal ● Reference
D - Detected ND - Not Detected

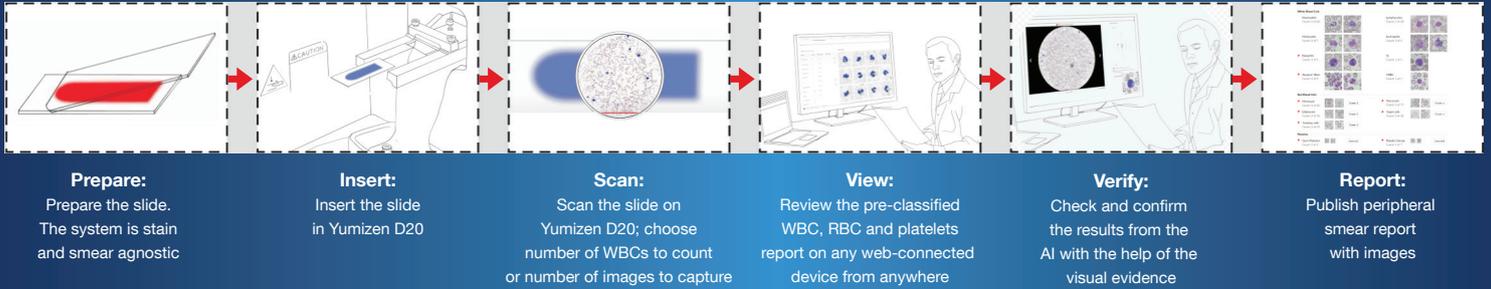
Epithelial

Visual evidence of sedimentation with grading of cell



Yumizen D20

A complete automated solution for urine sedimentation and peripheral blood smear



TECHNICAL SPECIFICATIONS

Slides

- Patient ID can be put manually
- One Slide at one time
- AI-driven scanning at 400X
- Dedicated cartridge for urine sample

Stain

- Any Romanowsky stain for Peripheral blood smear
- 1 cartridge, 3 urine samples can be processed

Quality Control

- Performance Qualification once a day
- OQ needs run once in 3 months

Yumizen D20 classification

- **Urine Classification:** Pus Cells, RBC, Epithelial cell, Yeast cell, Micro organism, Cast and Crystal
- **Peripheral blood smear**
 - **WBC:** 7 Part DC including Neutrophil, Lymphocytes, Monocytes, Eosinophils, Basophils, Immature Granulocytes
 - **RBC:** Microcytes, Normocytes, Round Macrocytes and Ovalo Macrocytes
 - **Platelets:** Presence of Platelets, Macro Platelets, Giant Platelets and Platelet Clumps

Throughput

- For Peripheral blood smear - 20 slides/hour
- For urine - 40 sample/hour

Maintenance

- Objective lens cleaning daily

Electrical Specification

- Power : 96W, 100-294 V AC, 50/60 Hz

Weight

- 40 kg
- Size : (W* D* H) 485 mm X 572 mm X 485 mm

Certificate

- CE Certified (IVDR)

Printer

- Laser/Inkjet Printer

Storage

- Cloud based software (Unlimited)

Yumizen D20 with Shrava (Urine): Performance metrics

FORMED ELEMENTS IN URINE	RBC	WBC	BACTERIA	EPITHELIAL CELL	CRYSTAL	YEAST
SENSITIVITY%	82.00	60.00	87.00	82.00	65.00	0.84
SPECIFICITY%	96.00	97.00	78.00	81.00	99.00	0.87

Yumizen D20 with Shonit (Blood): Performance metrics

PATCH LEVEL ANALYSIS (n = >2000 Cells)	NEUTROPHILS	LYMPHOCYTES	MONOCYTES	EOSINOPHILS	BASOPHILS
SENSITIVITY%	99.74	90.41	95.56	91.26	100
SPECIFICITY%	98.39	99.96	99.90	99.83	99.87

HORIBA India Private Limited

246, Okhla Industrial Estate Phase III, New Delhi - 110020, India

Tel : +91 (11) 4646 5000 / 4669 5001 | Fax : +91 (11) 4646 5020 / 4669 5010, <https://www.horiba.com> | E-mail : service.in@horiba.com