Specifications

Staining Method	Injection
Staining Program	Up to 10 staining programs, including 3 most common sperm staining programs: PAP, Modified PAP and Diff-Quik staining
Staining Carousel	Single layer, teflon-coated, individual slide positions, avoid cross-contamination
Staining Capacity	16 slides
Reagent Capacity	10 reagent bottles (10 × 500 mL)
Reagent Consumption	2.5-3 mL/slide
Centrifugal Speed	100-300 rpm, adjustable
Display	7-inch touch screen
Maintenance	Built-in gradienter to detect balance Auto-checking of reagents and waste liquid volume when starts up Auto-cleaning when shuts down
Safety	Lid interlock: ensure it's locked down during operation
Dimensions (WXDXH)	560 × 450 × 282 mm
Weight	20.5 kg

Cariad Staining Reagents	Specification	Composition
Papanicolaou Staining Kit for Spermatozoan Morphology	500 mL×5	
Modified Papanicolaou Staining Solution	50 mL×3; 500 mL×3	
Diff-Quik Staining Solution	100 mL×3; 500 mL×3	

RS-162

Full Automatic Staining Machine

Reproductive Medicine Dedicated

Concentration | Efficiency | Cost-efficient

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Zhuhai Cariad Medical Technology Co., Ltd. Cariad building, Block A09, 81 Dingye Rd., High-tech Zone, Zhuhai 519085, Guangdong, P.R. China
www.cariad.com.cn support@cariad.com.cn T +86 756 886 6017 F +86 756 886 6385 Cariad medical

Clinical significance of sperm morphology assessment

Human sperm morphology assessment offers both the prognostic value regarding spontaneous pregnancies or the outcome of ART, and the diagnostic information about the functional state of the male reproductive organs, primarily the testicles and epididymis[1]

Papanicolaou staining —— WHO and ISO 23162 gold standard

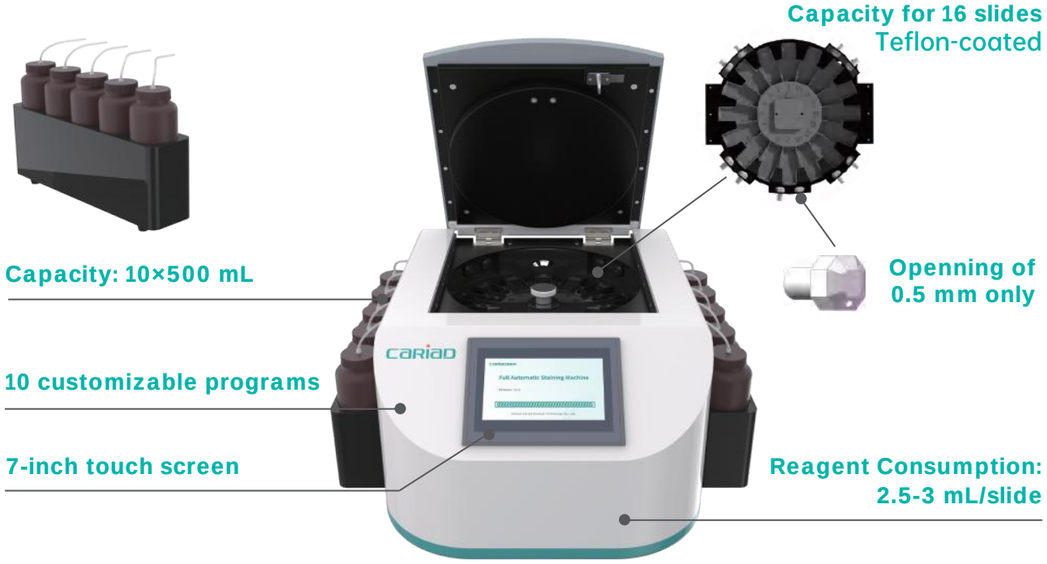
- It offers optimal visibility of all regions of the human spermatozoan
- It accurately detects all morphological abnormalities, distinguishing between cytoplasm and abnormal midpiece
- Papanicolaou staining has been validated and evaluated using the strict criteria recommended by WHO

Current status of sperm staining —— mainly manual staining

- Manual Diff-Quik staining is commonly used in labs but has limited diagnostic capability, lower staining quality, and cannot differentiate between cytoplasm and abnormal midpiece
- Papanicolaou staining is mainly carried out in specialized laboratories and hospitals in certain regions
- Sperm morphological assessment is absent from semen analysis in certain regions

RS-162		
PAP	MODIFIED PAP	DIFF-QUIK
2.8 min/slide	1 min/slide	16 sec/slide
Fully automated		
Standardization of results		
Low labour cost		

Manual		
PAP	MODIFIED PAP	DIFF-QUIK
45 min	15 min	3-5 min
21 steps	8 steps	4 steps
Difficult to standardize results		
High labour cost		



Advantages

Fully automated: from startup checking, staining, centrifuging to self-cleaning

High degree of customization: completely replace the manual method

3 most-used sperm staining programs are built in

Efficient process: 16 slides can be stained at the same time

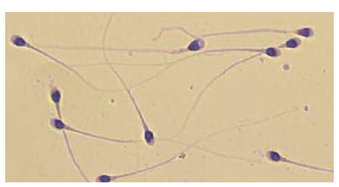
Injection mode: saves reagents and avoids cross-contamination

Standardization: staining procedures follow preset parameters, ensuring the consistency among slides and IQC

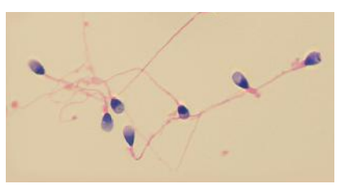
Customizable parameters

- Reagent selection
- Reagent amount
- Reagent waiting time
- Staining procedures
- Nozzle spraying time
- Centrifugation speed

Diagnostic confidence by RS-162



Papanicolaou Staining



Modified Papanicolaou Staining

Diif-Quik Staining