

ESFEQA Guideline for Method Key Selection

Program: Urine Sediments



Version: 11.2020

Analyte	BECKMAN COULTER Iris microscopy modules: Iris i200 Series	BECKMAN COULTER Iris: chemistry modules: Iris iChem Iris iChem VELOCITY	DIRUI FUS-3000	MENARINI Sedimax group: Sedimax Contrast Pro MENARINI Sedimax MENARINI Sedimax 2 MENARINI Sedimax Lite	Microscope (Leica) Microscope (Olympus) Microscope (ZEISS) Microscope (no brand specified)	ROCHE Cobas u 411	Roche Cobas u 701	ROCHE Cobas 6500 (combination of cobas u 701 (automated microscopy) and cobas u 601 (dry chemistry))	SIEMENS ATELLICA	SYSMEX UC-3500	Sysmex UF500i SYSMEX UF-5000/4000 SYSMEX UF-1000i	SYSMEX UN Series (UN series reflects combined system of different modules for urinalysis)	SYSMEX UX-2000
BAC qualitative cut-off: <3 particles/HPF or <10 particles/μL	Microscopy Automated	Dry Chemistry (no bacterial count, but NIT determination with test strip)	Microscopy Automated	Microscopy Automated	Microscopy Manually	Dry Chemistry (no bacterial count, but NIT determination with test strip)	Microscopy Automated	- cobas u 701 module: Microscopy Automated - cobas u 601 module: Dry Chemistry (no bacterial count, but NIT determination with test strip)	- Microscopy Automated or - Dry Chemistry (no bacterial count, but NIT determination with test strip)	Dry Chemistry (no bacterial count, but NIT determination with test strip)	Flow Cytometry	please refer to specific Sysmex urinalysis module (UF-, UX-...)	Flow Cytometry or Dry Chemistry for NIT determination with test strip
BAC qualitatively cut-off: <30 particles/HPF or <100 particles/μL	Microscopy Automated	Dry Chemistry (no bacterial count, but NIT determination with test strip)	Microscopy Automated	Microscopy Automated	Microscopy Manually	Dry Chemistry (no bacterial count, but NIT determination with test strip)	Microscopy Automated	- cobas u 701 module: Microscopy Automated - cobas u 601 module: Dry Chemistry (no bacterial count, but NIT determination with test strip)	- Microscopy Automated or - Dry Chemistry (no bacterial count, but NIT determination with test strip)	Dry Chemistry (no bacterial count, but NIT determination with test strip)	Flow Cytometry	please refer to specific Sysmex urinalysis module (UF-, UX-...)	Flow Cytometry or Dry Chemistry for NIT determination with test strip
BAC semi-quantitative particles/HPF	Microscopy Automated	not applicable	Microscopy Automated (if applicable)	Microscopy Automated (if applicable)	Microscopy Manually	not applicable	Microscopy Automated	- cobas u 701 module: Microscopy Automated - cobas u 601 module: Dry Chemistry	if applicable: - Microscopy Automated or - Dry Chemistry (no bacterial count, but NIT determination with test strip)	not applicable	Flow Cytometry (if applicable)	please refer to specific Sysmex urinalysis module (UF-, UX-...)	Flow Cytometry or Dry Chemistry for NIT determination with test strip
BAC semi-quantitative particles/μL	Microscopy Automated	not applicable	Microscopy Automated (if applicable)	Microscopy Automated (if applicable)	Microscopy Manually (if applicable)	not applicable	Microscopy Automated	- cobas u 701 module: Microscopy Automated - cobas u 601 module: Dry Chemistry	if applicable: - Microscopy Automated or - Dry Chemistry (no bacterial count, but NIT determination with test strip)	not applicable	Flow Cytometry	please refer to specific Sysmex urinalysis module (UF-, UX-...)	Flow Cytometry or Dry Chemistry for NIT determination with test strip
BAC quantitative [unit]	Microscopy Automated [p/μL and p/HPF]	not applicable	Microscopy Automated (if applicable)	Microscopy Automated (particulates/HPF or particles/μL) (if applicable)	Microscopy Manually [p/μL and p/HPF if applicable]	not applicable	Microscopy Automated (particulates/HPF or particles/μL)	not applicable	if applicable: - Microscopy Automated or - Dry Chemistry (no bacterial count, but NIT determination with test strip)	not applicable	Flow Cytometry [particulates/μL]	please refer to specific Sysmex urinalysis module (UF-, UX-...)	Flow Cytometry or Dry Chemistry for NIT determination with test strip
CAS qualitatively cut-off: 1 particle/LPF or 0.1 particle/μL	Microscopy Automated	not applicable	Microscopy Automated	Microscopy Automated	Microscopy Manually	not applicable	Microscopy Automated	Microscopy Automated	Microscopy Automated	not applicable	Flow Cytometry	please refer to specific Sysmex urinalysis module (UF-, UX-...)	Flow Cytometry
CAS semi-quantitative particles/LPF	Microscopy Automated	not applicable	Microscopy Automated (if applicable)	Microscopy Automated (if applicable)	Microscopy Manually	not applicable	Microscopy Automated (if applicable)	Microscopy Automated	Microscopy Automated (if applicable)	not applicable	Flow Cytometry (if applicable)	please refer to specific Sysmex urinalysis module (UF-, UX-...)	Flow Cytometry (if applicable)
CAS semi-quantitative particles/μL	Microscopy Automated	not applicable	Microscopy Automated (if applicable)	Microscopy Automated (if applicable)	Microscopy Manually (if applicable)	not applicable	Microscopy Automated (if applicable)	Microscopy Automated	Microscopy Automated (if applicable)	not applicable	Flow Cytometry	please refer to specific Sysmex urinalysis module (UF-, UX-...)	Flow Cytometry (if applicable)
CAS quantitatively	Microscopy Automated [p/μL and p/HPF]	not applicable	Microscopy Automated (if applicable)	Microscopy Automated (particulates/HPF or particles/μL) (if applicable)	Microscopy Manually [p/μL and p/HPF if applicable]	not applicable	Microscopy Automated (if applicable)	not applicable	Microscopy Automated (if applicable)	not applicable	Flow Cytometry [particulates/μL]	please refer to specific Sysmex urinalysis module (UF-, UX-...)	Flow Cytometry (if applicable)
CRY qualitatively cut-off: 2 particles/HPF or 6 particles/μL	Microscopy Automated	not applicable	Microscopy Automated	Microscopy Automated	Microscopy Manually	not applicable	Microscopy Automated (if applicable)	Microscopy Automated	Microscopy Automated	not applicable	Flow Cytometry	please refer to specific Sysmex urinalysis module (UF-, UX-...)	Flow Cytometry
CRY semi-quantitative particles/HPF	Microscopy Automated	not applicable	Microscopy Automated (if applicable)	Microscopy Automated (if applicable)	Microscopy Manually	not applicable	Microscopy Automated (if applicable)	Microscopy Automated (if applicable)	Microscopy Automated (if applicable)	not applicable	Flow Cytometry (if applicable)	please refer to specific Sysmex urinalysis module (UF-, UX-...)	Flow Cytometry (if applicable)
CRY semi-quantitative particles/μL	Microscopy Automated	not applicable	Microscopy Automated (if applicable)	Microscopy Automated (if applicable)	Microscopy Manually (if applicable)	not applicable	Microscopy Automated (if applicable)	Microscopy Automated (if applicable)	Microscopy Automated (if applicable)	not applicable	Flow Cytometry (if applicable)	please refer to specific Sysmex urinalysis module (UF-, UX-...)	Flow Cytometry (if applicable)
CRY quantitatively [unit]	Microscopy Automated [p/μL and p/HPF]	not applicable	Microscopy Automated (if applicable)	Microscopy Automated (particulates/HPF or particles/μL) (if applicable)	Microscopy Manually [p/μL and p/HPF if applicable]	not applicable	Microscopy Automated (if applicable)	Microscopy Automated (if applicable)	Microscopy Automated (if applicable)	not applicable	Flow Cytometry [particulates/μL]	please refer to specific Sysmex urinalysis module (UF-, UX-...)	Flow Cytometry [particulates/μL] (if applicable)
RBC qualitatively cut-off: 3 particles/HPF or 10 particles/μL	Microscopy Automated	dry chemistry	Microscopy Automated (if applicable)	Microscopy Automated (if applicable)	Microscopy Manually	Dry Chemistry	Microscopy Automated	- Microscopy Automated or - Dry Chemistry (no RBC count, but BLD determination with test strip)	- Microscopy Automated or - Dry Chemistry (no RBC count, but BLD determination with test strip)	Dry Chemistry	Flow Cytometry	please refer to specific Sysmex urinalysis module (UF-, UX-...)	Flow Cytometry or Dry Chemistry (no RBC count, but BLD determination with test strip)
RBC semi-quantitative particles/HPF	Microscopy Automated	dry chemistry	Microscopy Automated (if applicable)	Microscopy Automated (if applicable)	Microscopy Manually	Dry Chemistry (if applicable)	Microscopy Automated	- Microscopy Automated or - Dry Chemistry (no RBC count, but BLD determination with test strip)	- Microscopy Automated or - Dry Chemistry (no RBC count, but BLD determination with test strip)	not applicable	Flow Cytometry (if applicable)	please refer to specific Sysmex urinalysis module (UF-, UX-...)	- Flow Cytometry (if applicable) or - Dry Chemistry (no RBC count, but BLD determination with test strip) (if applicable)
RBC semi-quantitative particles/μL	Microscopy Automated	dry chemistry	Microscopy Automated (if applicable)	Microscopy Automated (if applicable)	Microscopy Manually (if applicable)	Dry Chemistry	Microscopy Automated	- Microscopy Automated (if applicable) or - Dry Chemistry (no RBC count, but BLD determination with test strip)	- Microscopy Automated or - Dry Chemistry (no RBC count, but BLD determination with test strip)	Dry Chemistry	Flow Cytometry	please refer to specific Sysmex urinalysis module (UF-, UX-...)	- Flow Cytometry or - Dry Chemistry (no RBC count, but BLD determination with test strip)
RBC quantitatively [unit]	automated microscopy (particulates/HPF or particles/μL)	not applicable	Microscopy Automated (particulates/μL) (if applicable)	Microscopy Automated (particulates/HPF or particles/μL) (if applicable)	Microscopy Manually [p/μL and p/HPF if applicable]	not applicable	Microscopy Automated (particulates/HPF or particles/μL)	Microscopy Automated (particulates/HPF or particles/μL)	Microscopy Automated (if applicable)	Dry Chemistry [particulates/μL] (not recommended for diagnostic use)	Flow Cytometry [particulates/μL]	please refer to specific Sysmex urinalysis module (UF-, UX-...)	- Flow Cytometry or - Dry Chemistry (no RBC count, but BLD determination with test strip) [particulates/μL]
WBC qualitatively cut-off: 5 particles/HPF or 15 particles/μL	Microscopy Automated	dry chemistry	Microscopy Automated (if applicable)	Microscopy Automated (if applicable)	Microscopy Manually	Dry Chemistry	Microscopy Automated	- Microscopy Automated or - Dry Chemistry (no WBC count, but LEU determination with test strip)	- Microscopy Automated or - Dry Chemistry (no WBC count, but LEU determination with test strip)	Dry Chemistry	Flow Cytometry	please refer to specific Sysmex urinalysis module (UF-, UX-...)	- Flow Cytometry or - Dry Chemistry (no WBC count, but LEU determination with test strip)
WBC semi-quantitative particles/HPF	Microscopy Automated	dry chemistry	Microscopy Automated (if applicable)	Microscopy Automated (if applicable)	Microscopy Manually	Dry Chemistry (if applicable)	Microscopy Automated	- Microscopy Automated or - Dry Chemistry (no WBC count, but LEU determination with test strip)	- Microscopy Automated or - Dry Chemistry (no WBC count, but LEU determination with test strip)	dry chemistry (if applicable)	Flow Cytometry (if applicable)	please refer to specific Sysmex urinalysis module (UF-, UX-...)	Flow Cytometry (if applicable)
WBC semi-quantitative particles/μL	Microscopy Automated	dry chemistry	Microscopy Automated (if applicable)	Microscopy Automated (if applicable)	Microscopy Manually (if applicable)	Dry Chemistry	Microscopy Automated	- Microscopy Automated (if applicable) or - Dry Chemistry (no WBC count, but LEU determination with test strip)	- Microscopy Automated or - Dry Chemistry (no WBC count, but LEU determination with test strip)	Dry Chemistry	Flow Cytometry	please refer to specific Sysmex urinalysis module (UF-, UX-...)	- Flow Cytometry or - Dry Chemistry (no WBC count, but LEU determination with test strip)
WBC quantitatively [unit]	Microscopy Automated (particulates/HPF or particles/μL)	not applicable	Microscopy Automated (particulates/μL) (if applicable)	Microscopy Automated (particulates/HPF or particles/μL) (if applicable)	Microscopy Manually [p/μL and p/HPF] (if applicable)	not applicable	Microscopy Automated (particulates/HPF or particles/μL)	Microscopy Automated (particulates/HPF or particles/μL)	Microscopy Automated (if applicable)	Dry Chemistry [particulates/μL] (not recommended for diagnostic use)	Flow Cytometry [particulates/μL]	please refer to specific Sysmex urinalysis module (UF-, UX-...)	- Flow Cytometry or - Dry Chemistry (no WBC count, but LEU determination with test strip) [particulates/μL]

The proposed Method Keys as indicated in the table above were derived from the available information of the system manufacturers.