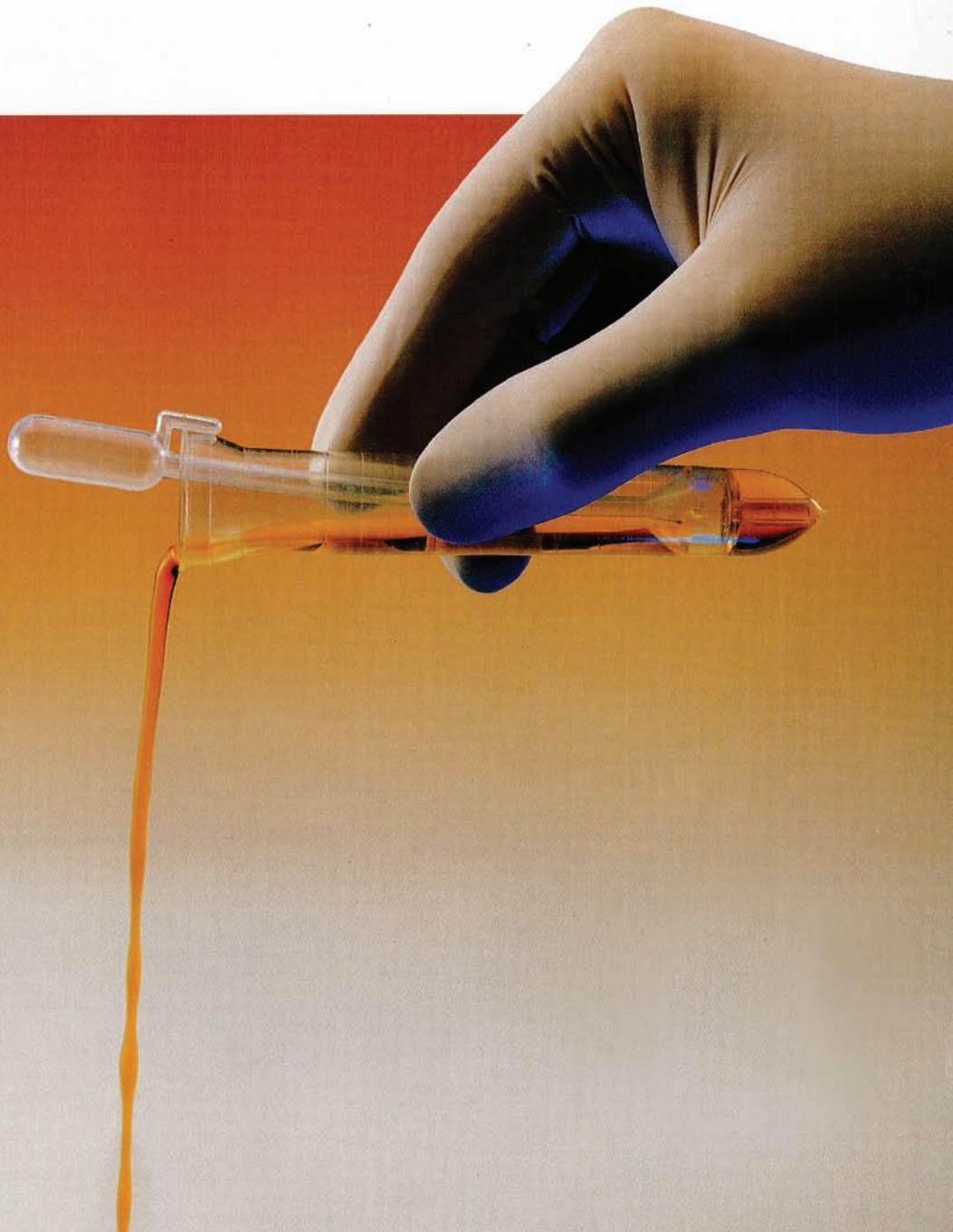


KOVA
INTERNATIONAL

THE KOVA[®] SYSTEM

A guide to standardization



THE KOVA® SYSTEM

For hygienic, standardized urinalysis

Analysis of urine specimens is the most commonly performed laboratory test in medicine today. And with the KOVA® system, inaccuracies caused by the lack of standardization have been significantly reduced.

The use of the KOVA system demonstrates that an inexperienced laboratory technician with only do 30 minutes of the instruction and will obtain results comparable to an experienced technologist (Figure 1). Studies by the University of Illinois School Of Medicine verified that the KOVA system is not only precise and accurate, but reproducible and extremely safe.

To further assist you in its use, we'll provide a FREE in-service video for your training.

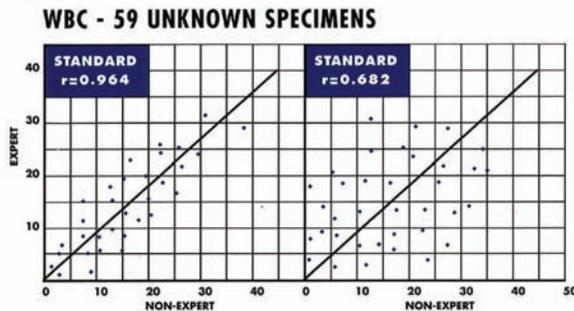


Figure 1: Comparison of the examination of the urinary sediment for white blood cells by the expert and non-expert observer using both KOVA and standard systems of urinalysis.

KOVA SYSTEMS COMPONENTS

The KOVA system components provide everything you need for urinalysis testing. Starting with the KO-LED-PAC®, the KOVA Cup is used for transfer a 12mL specimen to the Economy Tube, or the unbreakable K-resin Super Tube. Transferring the specimen from collection cup to the tube is easy: ten of either the Economy Tube or the Super Tube can be kept upright in a specially designed KOVA Decanting Rack. The KOVA Cap prevents spillage during transportation to and from the centrifuge, and aerosol contamination during centrifugation. The KOVA Petter is a disposable plastic transfer pipette designed to retain 1.0 mL of urine after centrifugation. The KOVA Glasstic® Slide has ten optically clear chambers. Each chamber draws in a consistent 6.6 µL sample by capillary action,



STANDARDIZED MICROSCOPIC PROCEDURE USING THE KOVA SYSTEM

*For clear, quick and hygienic
microscopic urinalysis*



The unique KOVA Petter with its lock tip feature allows decanting of up to ten KOVA Tubes at one time in the KOVA Decanting Rack.



The KOVA Petter is withdrawn and one drop of KOVA Stain (Sternheimer-Malbin) is added to aid in the visualization of cells and casts (see KOVA Stain package insert for the staining characteristics of each sediment element).



After sample collection and transportation to the laboratory, 12 ml of each of the specimen and the controls are poured into separate graduated KOVA Tubes. After determining specific gravity and dip stick chemistries, the capped tubes are centrifuged at 1500 RPM (6" rotor = 400 rcf) for five minutes.



Tubes are then removed from the centrifuge and a lock tip KOVA Petter is firmly inserted into each tube trapping 1.0 ml of sediment; the supernatant is then decanted as shown.



The sediment and stain are then mixed by gentle repeated squeezing of the KOVA Petter bulb. The Petter is used to transfer one drop to the appropriately numbered chamber on either a four-well or ten-well KOVA Slide. Each chamber of all KOVA Slides contains a standard volume of 6.6 pl. Capillary action will draw this precise amount of urine into the slide chamber.



The KOVA Slide is then placed in the microscope stage; casts are quantified at lower power (100X). All other elements are quantified at high power (400X). Proper performance will be indicated by comparing KOVA-Trol human urine based control containing erythrocytes and simulated leukocytes values with their respective package insert value charts.

and homogeneously distributes the sediment for microscopic examination. All of these steps occur with minimal exposure of the technician to the urine specimen.

KOVA MULTIPURPOSE URINE CONTROLS

The KOVA-Trol® line of lyophilized human urine-based controls offers three levels for quality control of urine chemistry and microscopic: High Abnormal (with or without urobilinogen), Low Abnormal and Normal. Expensive value assignments include individual visual and instrument strip readings and each level has a stability of 18 months from the date of manufacture. Use of these comprehensive controls allows you to obtain the maximum in quality control information for urinalysis testing.

KOVA Liqua-Trol™ is a ready-to-use liquid control with urobilinogen that saves time and reduces inconsistencies and errors. KOVA Liqua-Trol control uses a "true" leukocyte esterase that realistically simulates a patient sample. This control is available with or without microscopic, in two levels, Normal and Abnormal, and two sizes. The 15 mL size has a spray bottle configuration for easy-to-use chemical testing and the 120 mL size, for larger microscopic testing, has a twist-off cap.

Its extensive value assignments include individual visual and instrument strip readings. With proper storage Liqua-Trol has a proven shelf-life of up to 12 months from date of manufacture.

KOVA-Trol and KOVA Liqua-Trol are intended for use in the clinical laboratory as controls for macroscopic and microscopic examination as well as physiochemical and chemical analysis of urine specimens.

KOVA-YOUR ALL-IN-ONE SYSTEM

The KOVA System will provide you with the products and a method that will practically eliminate variation between technicians and errors.



Your urinalysis lab will be elevated to an accurate, trouble-free level of operation.

QUALITY CONTROL

The KOVA System has been engineered to standardize microscopic urinalysis and eliminate problems with variables such as the volume of urine centrifuged, centrifuged speed, amount of sediment retained after decanting, volume of microscopic sediment examined with or without urobilinogen and operator variation.

KOVA-TROL AND KOVA LIQUA-TROL

KOVA-Trol, a human urine based control with simulated leukocytes, is used as a daily control for the physical, chemical and microscopic examination of the urinalysis laboratory.

KOVA-Trol is available in three levels, High Abnormal (Level I), Low Abnormal (Level II), and Normal (Level III). Liqua-Trol is available in two levels, Normal and Abnormal, with or without microscopics.

An internal quality control program can be established using KOVA-Trol to check the performance and reactivity of the lab's urine chemistry test strips, as well as to monitor any changes occurring in the microscopic sediment analysis. This is accomplished by plotting the reported numbers of KOVA-Trol simulated leukocytes on a day-to-day basis. If after establishing the mean value and standard deviation limits, a shift is observed, many sources of error can be identified and corrected. Technician variation is eliminated due to the standardization of each step of the KOVA procedure.

NOTE: Casts and crystals are present in each level of our KOVA-Trol control and crystals are present in our KOVA Liqua-Trol control; values for cell counts are slightly higher when using a swing rotor.

Ordering information on reverse side.

ORDERING INFORMATION - UNITED STATES

Product No.	Product Description	Packaging
KOVA System for Standardized Urinalysis		
KOVA System Packs		
87153	KOVA System Super Pac 1000 and Caps	1000 Determinations
87155	KOVA System Pac II	400 Determinations
87156	KOVA System Value Pac 500	500 Determinations
87141	KOVA KO-LEC-PAC	500 Determinations
KOVA System Components		
87100	KOVA Slide II with Grids	400 Determinations
87118	KOVA Slide II	400 Determinations
87144	KOVA Glasstic Slide 10 with Grids	1000 Determinations
87146	KOVA Glasstic Slide 10	1000 Determinations
87157	KOVA Glasstic Slide 10	500 Determinations
87137	KOVA Super Tubes	500 Tubes
87138	KOVA Economy Tubes	500 Tubes
87135	KOVA Petters	500 Petters
87139	KOVA Caps	500 Caps
87136	KOVA Decanting Rack	1 Rack
87160	Urine Sediment: A Textbook Adas	1 Each
87124	A Primer of Microscopic Urinalysis	1 Each

KOVA System Products for Urinalysis Quality Control

KOVA Liqua-Trol

87120	KOVA Liqua-Trol, Abnormal and Normal (3x15 mL each)	6x15 mL
87170	Liqua-Trol Normal with Microscopies	2x120 mL
87171	Liqua-Trol Abnormal with Microscopies	2x120 mL
87172	Liqua-Trol Normal with Microscopies	4x120 mL
87173	Liqua-Trol Abnormal with Microscopies	4x120 mL

High Abnormal Controls

87129	KOVA-Trol I	4x15 mL
87125	KOVA-Trol I	4x60 mL
87126	KOVA-Trol I	10x60 mL
87132	KOVA-Trol I - with Urobilinogen	4x60 mL
87133	KOVA-Trol I - with Urobilinogen	10x60 mL
87134	KOVA-Trol I - with Urobilinogen	4x15 mL

Low Abnormal Controls

87130	KOVA-Trol II	4x15 mL
87128	KOVA-Trol II	10x60 mL

Normal Controls

87131	KOVA-Trol III	4x15 mL
87127	KOVA-Trol III	4x60 mL

KOVA Stain

87116	KOVA Stain	3x25 mL
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KOVA
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Fax 714-908-7945
Toll free number 1-855-217-6399
www.kovaintl.com

ORDERING INFORMATION - INTERNATIONAL

Product No.	Product Description	Packaging
KOVA System for Standardized Urinalysis		
KOVA System Packs		
87153 E	KOVA System Super Pac 1000 and Caps	1000 Determinations
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87141 E	KOVA KO-LEC-PAC	500 Determinations
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87118 E	KOVA Slide II	400 Determinations
87144 E	KOVA Glasstic Slide 10 with Grids	1000 Determinations
87146 E	KOVA Glasstic Slide 10	1000 Determinations
87157 E	KOVA Glasstic Slide 10	500 Determinations
87137 E	KOVA Super Tubes	500 Tubes
87138 E	KOVA Economy Tubes	500 Tubes
87135 E	KOVA Petters	500 Petters
87139 E	KOVA Caps	500 Caps
87136 E	KOVA Decanting Rack	1 Rack
87160 E	Urine Sediment: A Textbook Adas	1 Each
87124 E	A Primer of Microscopic Urinalysis	1 Each

KOVA System Products for Urinalysis Quality Control

KOVA Liqua-Trol

87120 E	KOVA Liqua-Trol, Abnormal and Normal (3x15 mL each)	6x15 mL
87170 E	Liqua-Trol Normal with Microscopies	2x120 mL
87171 E	Liqua-Trol Abnormal with Microscopies	2x120 mL
87172 E	Liqua-Trol Normal with Microscopies	4x120 mL
87173 E	Liqua-Trol Abnormal with Microscopies	4x120 mL

High Abnormal Controls

87129 E	KOVA-Trol I	4x15 mL
87125 E	KOVA-Trol I	4x60 mL
87126 E	KOVA-Trol I	10x60 mL
87132 E	KOVA-Trol I - with Urobilinogen	4x60 mL
87133 E	KOVA-Trol I - with Urobilinogen	10x60 mL
87134 E	KOVA-Trol I - with Urobilinogen	4x15 mL

Low Abnormal Controls

87130 E	KOVA-Trol II	4x15 mL
87128 E	KOVA-Trol II	10x60 mL

Normal Controls

87131 E	KOVA-Trol III	4x15 mL
87127 E	KOVA-Trol III	4x60 mL

KOVA Stain

87116 E	KOVA Stain	3x25 mL
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