

Protein: The minimum sensitivity of the test strip is 10 mg protein/dl urine. The colour fields correspond to the following ranges of albumin concentrations:

Negative, 30, 100 and 500 mg/dl or negative, 0.3, 1.0 and 5.0 g/l
Falsely positive results are possible in alkaline urine samples (pH > 9), after infusions with polyvinylpyrrolidone (blood substitute), after intake of medicaments containing quinine and also by disinfectant residues in the urine sampling vessel. The protein colouration may be masked by the presence of medical dyes (e.g. methylene blue) or beetroot pigments.

Nitrite: The test detects concentrations from 0.05 to 0.1 mg nitrite/dl urine. Every pink colour indicates a bacterial infection of the urinary tract. The colour intensity depends only on the nitrite concentration, but does not provide information about the extent of the infection. A negative result does not preclude an infection of the urinary tract, if bacteria which cannot produce nitrite are present. Falsely negative results can be produced by high doses of ascorbic acid, by antibiotics therapy and by very low nitrate concentrations in urine as the result of low nitrate diet or strong dilution (diuresis). Falsely positive results can be caused by the presence of diagnostic or therapeutic dyes in the urine.

Ketones: The test is more sensitive to acetoacetic acid than to acetone. Values of 10 mg/dl acetoacetic acid or 50 mg/dl acetone are indicated. The colour fields correspond to the following acetoacetic acid values:

0 (negative), 25(+), 100(++) and 300(+++) mg/dl or
0 (negative), 2.5(+), 10(++) and 30(+++) mmol/l

Phenylketones in higher concentrations interfere with the test, and will produce variable colours. B-Hydroxybutyric acid is not detected. Phthalein compounds interfere by producing a red colouration.

Glucose: Pathological glucose concentrations are indicated by a colour change from green to bluish green. Yellow or greenish test fields should be considered negative or normal. The colour fields correspond to the following ranges of glucose concentrations:

neg. (yellow), neg. or normal (greenish), 50, 150, 500 and \geq 1000 mg/dl or neg. (yellow), neg. or normal (greenish), 2.8, 8.3, 27.8 and \geq 55.5 mmol/l.

Larger amounts of ascorbic acid which may be present in urine after a high intake of vitamin C (e.g. vitamin tablets, antibiotics or fruit juices) can lead to lower or falsely negative results. In addition an inhibitory effect is produced by gentisic acid. Falsely positive reactions can also be produced by a residue of peroxide containing cleansing agents.

pH: The pH value of fresh urine of healthy individuals varies between pH 5 and pH 6. The colour scale gives a clear distinction of pH value between pH 5 and pH 9.

Density: The test permits the determination of urine density between 1.000 and 1.030.

Urine from adults with normal diets and normal fluid intake will have a density of 1.015-1.025.

The chemical nature of the test strip may cause slightly different results from those obtained with other methods when elevated amounts of certain urine constituents are present, e.g. the increase of urine density in dependence on glucose concentrations of > 1000 mg/dl (> 56 mmol/l) cannot be demonstrated by the strips. Elevated density readings may be obtained in the presence of moderate quantities of protein. Highly buffered alkaline urines may cause low readings.

Leukocytes: The test records values starting from approx. 10-25 leukocytes/ μ l urine. Changes in colour that can not be assigned to the negative reference field and faint violet colours of 120 seconds must be evaluated as positive. The colour reference fields correspond to the following leukocyte concentrations:

negative (normal), 25, 75, 500 leukocytes/ μ l

A weakened reaction can be expected in the case of proteinuria of over 500 mg/dl and a glucose concentration of over 2 g/dl as well as in the case of patients taking preparations containing cephalixin and gentamycin. Bacteria, Trichomonas and erythrocytes do not interfere with this test. Formaldehyde (as a preservative) can result in a false positive reaction. Excretion of bilirubin, nitrofrantoin or other strongly-coloured compounds may disguise the colour of the reaction. Tests with female patients have shown that vaginal discharge can cause a false positive reaction.

QUALITY CONTROL : To ensure adequate quality, use of commercially available urine control is recommended. ROBONIK offers URICHAN & P Control in 2 X 15 ml pack size.

BIBLIOGRAPHY :

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