BIOTEST

Your reliable home test kits series

Kidney Function Test Kit

Product Code 9 555223 208074
For in vitro diagnostic and self-testing use
Store at (15-30ºC)

Test Principle

Your kidneys are a bean shaped organ, each about the size of your fist. They are located near the middle of your back, just below your rib cage. Kidneys work as filters that filter waste products and extra water from your blood and produce urine as a result. The average adult passes between 0.8L and 2.6L per day, depending on the fluids a person consumes. The tiny units inside your kidneys, called nephrons, are the actual filtering unit. Every kidney has about a million nephrons. Most kidney diseases attack the nephrons, altering their ability to filter blood and produce urine.

Kidney failure means that the kidney will lose one or more of the following functions:

1. Filtering ability

Normal nephrons act as barriers for Red Blood Cells (RBC) and large molecules such as proteins. Losing this ability means that protein and/or RBCs are likely to be seen in urine. Since the protein is the first to appear and RBCs will be a sign at a later stage, testing protein in urine can be considered as a screening tool for kidney failure.

2. Concentration of urine

After filtering, the kidney will reabsorb almost 99% of the filtrate back to the blood to retain body water. Losing this ability means that the body will lose more water. Clear signs of this is increased frequency of urinating and diluted urine. A specific gravity test will serve as a measure of how concentrated the urine is.

3. Removing by-products

A major task for the kidneys is to help the body get rid of metabolism waste products. The most common are urea and creatinine. These two compounds are usually present in the urine at high concentrations. Having them at low levels in the urine means that they are not being filtered and remain in the blood. Urea is a by-product of protein while creatinine is a by-product of muscle energy metabolism. Accordingly, a concentration of urea may be affected by the amount of protein taken in the diet. Based on that creatinine is considered as a more specific test for kidney failure.

The BIOTEST Kidney Function Test Kit contains two dip-and-read test strips and its main use is to check for creatinine, protein and specific gravity in urine specimens as an aid in evaluating kidney function.

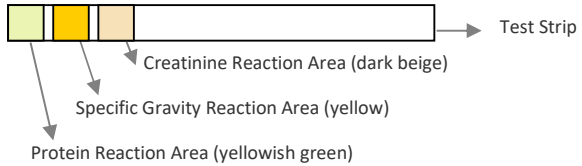
Precautions & Warnings

- Please read all the information in this leaflet before performing the test.
- Do not use the test after the expiration date.
- If the package is not completely sealed do not use the test.
- Do not open the test foil pouch until it has reached room temperature and you are ready to start the test.
- The test should be performed in a well-lit area.
- Use the test device immediately after opening it.
- Do not touch the test area. This could affect results and may also harmful.
- Use the provided collection cup and discard after performing the test.
- The pouch contains a silica gel pack to absorb humidity. Do not open the pack. Throw it away with the remainder of the test.
- Do not freeze.
- At the end of the test, wrap everything you have used in a plastic bag and throw in the bin. Do not forget to wash your hands properly.
- The remaining urine sample should be discarded and flushed in the toilet.
- Keep out of the reach of children.
- For in vitro diagnostic and self-testing use. Not to be taken internally.

How to Use

Use the provided collection cup to collect the urine. Test the urine as soon as possible after collection. This procedure MUST BE FOLLOWED EXACTLY to achieve reliable test results.

1. Prepare the urine specimen.
2. Remove the strip from the pouch. Familiarize yourself with the position of the reaction area of creatinine, specific gravity and protein. The dark beige reaction area is for creatinine, yellow is for specific gravity and the yellowish green area is for protein. Also, familiarize yourself with the colour chart on the box.



3. Dip the test strip in the urine until the reaction areas are completely immersed for no more than 1 second.
4. Remove the dipstick from the urine and tap the strip on the rim of the cup to remove excess urine and place it horizontally with the reaction areas facing up.
5. Leave the strip for 30-60 seconds for the reaction to take place.
6. Read the results by comparing the colours of the reaction on the strip to those on the box. While comparing, keep the strip in a horizontal position to avoid possible mixing of colours between the reaction areas on the strip.
7. Identify the best colour match on the colour blocks on the box and the corresponding concentration range. A change in colour that appears only along the edges of the reaction areas indicates that the reaction did not take place properly, so we recommend redoing the test with another strip. Results read after 60 seconds are not valid.

Results

The results are obtained by a direct comparison of the test strip with the colour blocks printed on the box. See the table below for test interpretation and recommendations

Protein Result	Interpretation
Negative	This is a normal result since urine should not include protein.
Trace	Sometimes having trace amounts of protein is considered normal. Repeat the test after several hours. If the result is still the same, you should seek medical advice. Sometimes protein may be associated with a Urinary Tract Infection. To exclude this factor, you can check using the BIOTEST Urinary Tract Infection Test Kit or seek medical advice.
+ ++ +++ ++++	This result is abnormal. You are most likely having a problem with the filtration ability of your kidneys. Seek medical advice immediately. Sometimes protein may be associated with a Urinary Tract Infection. To exclude this factor, you can check using the BIOTEST Urinary Tract Infection Test Kit or seek medical advice.

Creatinine Result	Interpretation
Negative +	This result indicates that creatinine is not being filtered from the blood. You should seek medical advice as soon as possible.
++ +++ ++++ +++++	This shows a normal result which means that your kidneys are working well in eliminating the by-products from your body.

Specific Gravity Result	Interpretation
+ ++	This result indicates that your urine is highly diluted. This result may be affected by liquid intake. You are advised to repeat the test after 2-3 hours and you should make sure to minimize liquid intake during this period. If you still have the same result, you may have a problem with the concentration ability of your kidneys, and you should seek medical advice.
+++	This is the same specific gravity for the filtrate. You are advised to repeat the test at a different time of the day. If you are still having a problem with the concentration ability of your kidneys, you should seek medical advice.
++++ +++++ ++++++	This indicates a normal result since urine should be concentrated.
+++++++	This result also shows that your kidneys are working well but having very concentrated urine all the time may indicate a kidney stone problem. It also may be associated with increased glucose concentration which you should check with the BIOTEST Diabetes Test Kit to exclude this factor or seek medical advice.

Advice

The BIOTEST Kidney Function Test Kit serves only as a screening kit. There are limitations to the test where certain substances may cause abnormal

urine colour, and some drugs may affect the colour development on the strip. The colour development on the reagent pad may be masked, or a colour reaction may be produced on the pad that could be interpreted visually as a false positive.

Drugs known to affect the result of protein include acetazolamide, aminosalicyclic acid, aspirin, barbiturates, cephalosporins, cephaloridine, chlorpromazine, corticosteroids, iodins contrast medium, mercurial diuretics, penicillins, phenazopyridine, promazine hydrochloride, radiographic contrast media, sodium bicarbonate, sulfisoxazole, sulfonamides, thymol, tolbutamide and tolmetin sodium. Drugs known to affect the results of creatinine include amphotericin B, anabolic steroids, androgens, ascorbic acid, barbiturates, capreomycin sulfate, carbutamide, cefoxitin sodium, cephalotin sodium, chlorthalidone, clonidine, colistin sulfate, dextran, doxycycline hyclate, kanamycin, levodopa, methyldopa, methyldopate hydrochloride, para-aminohippurate, phenolsulfonphthalein, sulfobromophthalein and thiazides. Drugs known to affect the result of specific gravity include intravenous dextran, radiopague dye, drugs associated for treating acidic urines, fluid therapy and treatment with diuretics.

If the result indicates you have a problem with your kidneys, we advise that you immediately seek medical advice and perform a more clinical and comprehensive check again. If you get a negative result but you still have all the symptoms, we advise that you seek medical advice as well, otherwise perform this test once every 6 months.

Please note that the BioTest range of health screening tests is intended for first step screening only and cannot be used as a confirmatory diagnostic tool. Discuss your test result with your doctor or pharmacist.

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