KPU

Kryptopyrroluria

Lab Report

Academy of Nutritional Medicine (AONM)
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Your lab result

As requested, we have analysed the kryptopyrroles in your urine sample for possible kryptopyrroluria (KPU). Below you will find your result and important information to help you better understand your health and take corrective measures if necessary.

Test-ID: KPUX-XXXX-XXXX-XXXX

ANALYSIS	RESULT
Kryptopyrroles in urine	xy µg/ml

Interpretation: The concentration of pyrroles in your urine

is *normal/increased*

Validated and approved by Prof. Dr. med. Walter E. Hitzler and Dr. med. Ralf Jochem, Special Diagnostic Services GmbH in 64625 Bensheim, Germany. This report is electronically generated and valid without signature.

Note: the following information has been created by health experts and is based on current research findings (see "References" page 7). The findings and recommendations presented in this report are intended to provide you with guidance. Individual symptoms and diagnoses have not been included in this report and should therefore be clarified by a medical professional.

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Explanation of the test results

The degree of KPU is diagnosed by measuring the concentration of pyrroles in urine using Ehrlich's reagent. Typically, the values are categorised as follows:

Kryptopyrroles in urine < 150 µg/ml = normal

Kryptopyrroles in urine ≥ 150 µg/ml = increased

If the pyrrole concentration is within the reference range (less than 150 µg/ml), it suggests that the **excretion of pyrroles in the urine is within expected levels** and the presence of **KPU is not suggested**.

On the other hand, if the pyrrole concentration exceeds the reference range, it suggests an **increased excretion of pyrroles in the urine**, indicating the **presence of KPU**. Subsequently, the micronutrient supply status of zinc, manganese and vitamin B6 should be determined in a complete blood analysis, as one or several of these can be deficient.

Note: Elevated pyrrole levels alone may not be diagnostic of KPU, and the test should be considered along with the individual's overall health profile to make an accurate diagnosis and determine the appropriate treatment plan.

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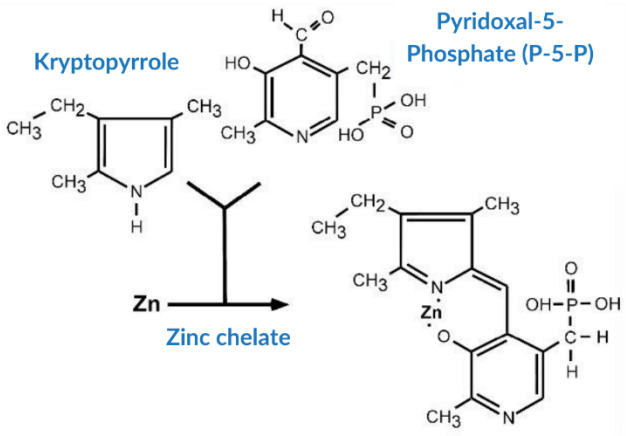
Information about KPU

Kryptopyrroluria (KPU) is a genetically determined metabolic disorder characterised by the excessive excretion of pyrroles in the urine. Pyrroles are a group of chemical compounds derived from the breakdown of heme, a component of haemoglobin. As a result, important nutrients such as vitamin B6 (pyridoxine), zinc and manganese become bound to the pyrroles and are lost through the urine. This can lead to deficiencies of these essential nutrients and disrupt various metabolic processes in the body.



Insoluble complex of Kryptopyrrole, zinc and P-5-P

Even though it is mostly compensated under normal living conditions, under the influence of stress, this metabolic disorder cannot be compensated and manifests itself in the form of various symptoms.

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Symptoms

The symptoms associated with KPU can vary among individuals and may be nonspecific, but common symptoms may include:

- **Neurological symptoms**
  - Memory issues and difficulty concentrating
  - Brain fog or mental confusion
  - Mood swings, anxiety, and depression
  - Irritability and emotional instability
  - Sleep disturbances and insomnia
- **Digestive issues**
  - Abdominal pain or discomfort
  - Nausea and vomiting
  - Diarrhea or constipation
  - Poor appetite or food sensitivities
- **Fatigue and weakness**
  - Chronic fatigue and low energy levels
  - Muscle weakness and reduced stamina
- **Skin problems**
  - Sensitivity to sunlight (photosensitivity)
  - Skin rashes or acne
  - Dry or itchy skin
- **Musculoskeletal symptoms**
  - Joint pain and stiffness
  - Muscle pain and cramps
- **Immune system disturbances**
  - Frequent infections or weakened immune response
- **Sensitivity to sensory stimuli**
  - Sensitivity to light, noise, or odours

Note: It's important to note that these symptoms are not specific to KPU and can overlap with various other medical conditions. Additionally, not everyone with KPU will experience all of these symptoms, and the severity can vary significantly among individuals.

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Therapy

The therapy for Kryptopyrroluria (KPU) typically involves a combination of nutritional supplementation and dietary modifications. The primary goal of therapy is to address the nutrient deficiencies caused by the excessive excretion of pyrroles in the urine and to alleviate the symptoms. The therapy generally applied for KPU includes:

Supplementation of Nutrients:

- **Vitamin B6** (Pyridoxine): Vitamin B6 supplementation is a cornerstone of KPU treatment, as KPU leads to the excretion of pyrroles, which bind to and deplete vitamin B6. The supplementation aims to restore adequate levels of vitamin B6 in the body, supporting various metabolic processes.
- **Zinc**: Zinc is another essential nutrient commonly depleted in individuals with KPU. Zinc supplementation helps to correct the deficiency and support immune function, protein synthesis, and other cellular processes.
- **Manganese**: Manganese is often deficient in KPU patients and plays a crucial role in various enzyme systems. Supplementation helps to address manganese depletion and its associated functions.

Other Nutritional Support: Other nutrients such as omega-6 fatty acids, magnesium and vitamin C may also be recommended as part of the overall therapy plan to support general health and wellbeing.

Dietary Modifications: While specific dietary modifications may not directly treat KPU, a balanced and nutritious diet can complement the supplementation approaches and promote overall health. Foods containing the deficient vitamins/minerals are also a valuable addition.

Stress Management: Stress management techniques may be suggested, as stress can exacerbate symptoms and impact overall health.

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