

M2 pyruvate kinase, M2PK

General:

Gastrointestinal cancer is one of the most common causes of death in tumor disorders. Early recognition is mandatory for successful treatment. Pyruvate kinase (PK) is a key – enzyme of glucose metabolism (glycolysis) and exists in different isoforms with tissue-specific expression. Pyruvate kinase L is formed in liver and renal tubuli, pyruvate kinase R in erythrocytes, pyruvate kinase M1 in muscles and brain and pyruvate kinase M2 in the lung. It has been shown that tumor development leads to loss of tissue-specific isoforms. While active, tissue-specific enzymes contain 4 subunits, tumor M2-PK consists of 2 subunits, which are less active. This dimer form of tumor M2-PK is relatively characteristic for tumor cells. The test has been performed previously only in plasma for the detection of several tumors (lung, mamma, kidney etc.).

Recently a new method for the detection of gastrointestinal tumors in stool has been established. A positive result points to adenoma or colorectal neoplasia. Other tumors as well as chronic inflammatory disorders can also lead to elevated values.

The following tests are available:

- **M2PK in stool**

Indication: Screening tests, screening for colorectal tumors

Preanalytics: Frozen stool sample (-20°C, dry ice) is required.

Material: 5 g stool

TAT: 7-10 days*

Method: EIA

Units: U/ml

Ref.- range: see report

Note: Increased values can also appear in acute and/or chronic inflammatory gastrointestinal disorders.

- **M2PK in blood**

Indication: Therapy monitoring, early diagnosis of metastases or relapse, monitoring different tumors (e.g. kidney cell carcinoma, bronchial ca, gastrointestinal tumors)

Material: 2 ml EDTA plasma, **frozen**

TAT: 7-10 days*

Method: EIA

Units: U/ml

Ref.- range: <15.0

For complete list of laboratory test offered at Freiburg Medical Laboratory, please visit <http://www.fml-dubai.com/parameter-listings/>