

Vitamin K-1, Serum

Related Information: Factor II Mutation (Prothrombin Mutation)
Factor V Mutation (Leiden Mutation)
Protein C
Protein S, Total

Background: Vitamin K is a fat soluble vitamin, essential for the synthesis of clotting factors by the liver as a co factor in carboxylation of glutamic acid residues to form gamma-carboxy-glutamic acid.

Since bile salts are necessary for absorption, an obstruction of the bile ducts may cause vitamin K deficiency. Besides dietary intake, the vitamin is also synthesized by intestinal bacteria; anti-biotic treatment may cause a deficiency. Vitamin K deficiency is characterized by decrease of factor II, VII, IX, X, Protein C and Protein S. Prolongation of PT occurs.

Coumarin blocks vitamin K dependent carboxylation, therefore, according to the half life time of the clotting factors, factor VII, and Protein C in the serum decreases first, thereafter factor X, II and IX.

Cephalosporins interfere directly with vitamin K regeneration.

Sampling: 2 mL serum

Reference Interval: 50–900 ng/L

Xylose Absorption Test, Serum

Related Information: Endomysial Antibodies
Gliadin IgG/IgA Antibodies

Synonyms: d-Xylose Absorption Test, Serum,

Background: d-xylose is absorbed in the duodenum and jejunum and excreted by the kidney. The test screens for carbohydrate malabsorption and differentiates from pancreatic insufficiency, since pancreatic enzymes are not necessary for xylose absorption. Diseases such as celiac disease, tropical sprue, M. Crohn, surgical bowel resection impair xylose resorption.

Sampling: Patient should be fasting at least for 4 h and remain in a supine position during the test. Patient should be withdrawn from interfering medications (aspirin, indomethacin, neomycin, glipizide, atropine). Draw first sample (1 mL serum) before administer 25 g xylose orally in water, 10% w/v in adults. In children use 0.5g / kg body weight. Draw second (1 mL serum) sample after 60 minutes.

Reference Interval:

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| Adult, 1 h, 25 g of d-xylose | > 25.mg/dL |
| Adult, 1 h, 25 g of xylose, renal insufficiency | > 20 mg/dL |
| Adult, 1 h, 5 g dose of d-xylose | 20-40 mg/dL |
| Children < 12 years, 1 h , 5g dose | > 20 mg/dL |