Creatine Kinase, Total

CPT Code: 82550
Order Code: 374
ABN Requirement: No
Synonyms: CK; Total CK; Creatine Phosphokinase; CPK
Specimen: Serum
Volume: 1.0 mL
Minimum Volume: 0.5 mL
Container: Gel-barrier tube (SST, Tiger Top)

Collection:

1. Collect and label sample according to standard protocols.
2. Gently invert tube 5 times immediately after draw. Do not shake.
3. Allow at least 30 minutes, and up to 60 minutes, from patient draw and ensure a complete clot has formed before placing the specimen in the centrifuge.
4. Centrifuge sample for 15 minutes.

Transport: Store serum at 2°C to 8°C after collection and ship the same day per packaging instructions included with the provided shipping box.

Stability:

Ambient (15-25°C): 72 hours
Refrigerated (2-8°C): 7 days
Frozen (-20°C): 28 days

Causes for Rejection: Specimens other than serum; improper labeling; samples not stored properly; samples older than stability limits; hemolyzed specimens

Methodology: Spectrophotometry

Turn Around Time: 1 to 3 days

Reference Range:

Age	Male U/L	Female U/L

≤3 Days (newborn)	<1578	<1578
28 Days	<183	<134
11 Months	<136	<143
6 Years	<160	<143
9 Years	<177	<143
12 Years	<217	<143
18 Years	<245	<143
>18 Years	44-196	29-143

Priority Values:

Clinical Significance: This test measures creatine kinase (CK), an enzyme found primarily in striated muscle and heart tissue and may be useful in assessing muscle damage.

CK is a dimeric enzyme composed of either 2 B subunits (CK-BB), 2 M subunits (CK-MM), or an M and a B subunit (CK-MB). CK-MM is the primary isoenzyme found in the skeletal muscle and heart tissue. CK-BB is mainly found in the brain and smooth muscle of gastrointestinal tract and urinary bladder. CK-MB is mainly found in the heart with a small amount in skeletal muscle[1]. An elevated level of any isoenzyme results in an elevated total CK level.

An increase in the CK level is often observed in inflammatory myopathy (eg, viral myositis, polymyositis, and immune-mediated myopathies), muscular dystrophy (eg, Duchenne sex-linked muscular dystrophy), rhabdomyolysis, or malignant hyperthermia[1]. In patients with neuromuscular disorders, an increased CK level may be the only initial manifestation[1]. Increased CK activity may also be caused by hypothyroidism, acute myocardial infarction, chronic renal failure, direct muscle trauma (eg, surgery and intramuscular injection), excessive exercise, certain medications (eg, statins, fibrates, antiretrovirals, and angiotensin II receptor antagonists), or brain damage or very low birth weight in newborns[1].

The results of this test should be interpreted in the context of pertinent clinical and family history and physical examination findings.

Reference:

1. Panteghini M, et al. Serum enzymes. In: Rifai N, et al. eds. Tietz Textbook of Laboratory Medicine. 7th ed. Elservier Inc; 2022:4149-4299.

Limitations: Cyanokit (Hydroxocobalamin) may cause interference with results. In very rare cases gammopathy may cause unreliable results. Non-hemolyzed samples are recommended by the IFCC for testing. Highly lipemic specimens may cause unreliable results.

The CPT codes provided are based on AMA guidelines and are for informational purposes only. CPT coding is the sole responsibility of the billing party. Please direct any questions regarding coding to the payer being billed.