
Lab Dept: Chemistry

Test Name: PSEUDOCHOLINSTERASE, TOTAL, SERUM

General Information

Lab Order Codes: PSEUD

Synonyms: Cholinesterase (Pseudo), Total; Pseudochol; Butyrylcholinesterase

CPT Codes: 82480 – Cholinesterase, Serum

Test Includes: Pseudocholinesterase reported in U/L.

Logistics

Test Indications: Monitoring exposure to organophosphorus insecticides; monitoring patients with liver disease, particularly those undergoing liver transplantation; identifying patients who are homozygous or heterozygous for an atypical gene and have low levels of pseudocholinesterase.

This tests is **not useful** for the differential diagnosis of jaundice.

Lab Testing Sections: Chemistry - Sendouts

Referred to: Mayo Clinic Laboratories (MML Test: PCHE1)

Phone Numbers: MIN Lab: 612-813-6280

STP Lab: 651-220-6550

Test Availability: Daily, 24 hours

Turnaround Time: 1 - 3 days, performed Monday-Friday

Special Instructions: N/A

Specimen

Specimen Type: Blood

Container: SST (Gold, marble or red) tube

Draw Volume: 3 mL (Minimum: 1 mL) blood

Processed Volume: 1 mL (Minimum: 0.25 mL) serum

Collection:	Routine blood collection
Special Processing:	Lab Staff: Centrifuge specimen, remove serum into a screw-capped plastic vial. Store and ship and refrigerated temperatures. Specimen stable refrigerated (preferred) for 14 days, frozen for 365 days, ambient for 24 hours.
Patient Preparation:	For cases of prolonged apnea following surgery, wait 24 hours before obtaining a specimen.
Sample Rejection:	Specimens other than serum; hemolysis; lipemia; icterus; mislabeled or unlabeled specimens

Interpretive

Reference Range:	Males:	5320-12,920 U/L
	Females:	
	0-15 years:	5320-12,920 U/L
	16- 39 years:	4260-11,250 U/L
	40-41 years:	5320-12,920 U/L
	> or =42 years:	5320-12,920 U/L
	<p>Note: Females age 18-41 years who are pregnant or taking hormonal contraceptives, the reference interval is 3650-9120 U/L.</p> <p>See reference lab catalog for further interpretation.</p>	

Critical Values: N/A

Limitations:

There are some homozygous and heterozygous individuals who are sensitive to succinylcholine although their total pseudocholinesterase (PCHE) values are normal. A dibucaine inhibition test is necessary to confirm the presence of the abnormal allele in these individuals.

Certain drugs and anesthetic agents may produce in-vitro inhibition of the PCHE activity. Therefore, it is recommended that blood specimens be drawn 24 to 48 hours post-operatively on those patients who have experienced prolonged apnea after surgery.

Chemotherapy may interfere with test results, depending on the impact it has on the liver. PCHE levels may be lower due to this and if so, testing should be repeated at a later date.

Method Change: Pseudocholinesterase values measured after 1-28-2020 are approximately 80% increased compared to historical values and should be interpreted in the context of the current reference interval.

In very rare cases of gammopathy, in particular type IgM (Waldenstrom macroglobulinemia), may cause unreliable results.

Methodology:

Colorimetric Assay

References:

[Mayo Clinic Laboratories](#) December 2023

Updates:

12/29/2023: Updated reference ranges, reference lab test code, rejection criteria, methodology, and turnaround time. Added specimen stability.