

CIDEM - Center for Inherited Disorders of Energy Metabolism - Laboratory Services

TEST NAME	Lactate/Pyruvate
TEST CODE	LAPYR
LOINC	32693-4, 2520-2, 14121-8, 14122-6, 2550-2, 54309-0
CPT	83605, 84210
PANEL COMPONENTS	Lactate, pyruvate, lactate/pyruvate ratio
SYNONYMS	Lactate to pyruvate ratio
TEST INDICATION	Measured enzymatically in blood or CSF as an index of impaired pyruvate metabolism due to defects of glucose oxidation (fed state) or gluconeogenesis (fasted). The ratio of lactate to pyruvate reflects the NAD/NADH ratio and is useful in distinguishing primary defects of pyruvate metabolism from defects of electron transport (or oxidation).
METHOD DESCRIPTION	Spectrophotometric enzymatic assay
COLLECT	
SPECIMEN REQUIREMENTS	Collect venous or arterial blood without prolonged stress to the patient with use of tourniquet, if needed. As soon as the blood or CSF is obtained, measure exactly 1 ml (with tuberculin syringe or a pipette) and transfer immediately to 2 ml of 8% w/v perchloric acid*. Stopper tube and shake vigorously for at least 15 seconds. The sample is now stable for local transport to a laboratory where it can be centrifuged. Freeze clear supernatant in a fresh tube.
SAMPLE	Deproteinized whole blood or CSF
CONTAINER	Tube with a 3:1 ratio of sample to 8% perchloric acid
PREFERRED VOLUME	1 ml whole blood/CSF diluted with 2 ml 8% perchloric acid
MINIMUM VOLUME	0.5 ml whole blood/CSF diluted with 1 ml 8% perchloric acid
TRANSPORT	
SAMPLE	Deproteinized whole blood or CSF
PREFERRED VOLUME	1 ml whole blood/CSF diluted with 2 ml 8% perchloric acid
MINIMUM VOLUME	0.5 ml whole blood diluted/CSF with 1 ml 8% perchloric acid
TEMPERATURE	Frozen on dry ice
HANDLING	Deproteinize immediately (in perchloric acid) to avoid artifacts of lactate formation in red cells or loss of pyruvate.
SHIPPING INSTRUCTIONS	Ship on dry ice
SPECIAL INSTRUCTIONS	Ship overnight
PERFORMED	UHCMC; Mon - Fri
TURN AROUND TIME	3 business days