

Unknown lab report for microbiology

[Literature](#), [Russian Literature](#)



There are many reasons for identifying an unknown bacterium. The reasons range from medical purposes, such as determining if the unknown could cause ailments in living things or knowing what microorganisms are needed to make antibiotics to other purposes such as knowing the exact microorganism has to be used to make certain foods. This experiment was done by applying methods in order to identify an unknown bacterium. An unknown bacterium was handed out by the lab instructor. The methods that have been learned so far in identifying bacteria were applied to this unknown. Procedures were followed as stated in the lab manual and biochemical test handouts. The first procedure that was done was a gram stain followed by a streak of the unknown on a TSA plate in order to determine the gram reaction and observe the colony morphology. After that, specific biochemical tests were performed for gram positive, since unknown number five was determined to be gram positive rod. The other tests were performed in this order: Mannitol Salt (MSA) streak, Blood Agar streak, Catalase test, Nitrate Reduction test, and Phenyl Red Broth test for lactose and sucrose fermentation. After performing a gram stain on unknown number five, number five was determined to be gram positive rod. On the TSA plate, number five had the following morphology: very large, raised, opaque cream color colonies that covered the entire plate and had beta-hemolysis. All the results from the biochemical tests performed are listed in Table 1 and are also shown in the preliminary (Figure 1) and final (Figure 2) flow charts that are included at the end of the lab report. Table 1: Results from Biochemical Tests

Test Results	Interpretations
Mannitol Salt (MSA)	No growth
Organism is not	Staphylococcus
Blood Agar	Clear zone around

colonies Organism hemolyzes RBC's completely so its Beta-hemolysis
Catalase bubbles Catalase is present Nitrate Reduction Turned red after
addition of Nitrate A and B Nitrate reduced to Nitrite Phenyl Red Broth -
lactose Pink broth with no bubble Lactose is not utilized Phenyl Red Broth -
sucrose Yellow broth with no bubble Sucrose is utilized After several tests, it
was concluded that unknown number five was *Bacillus cereus*. All of the
biochemical tests worked well except for the lactose test of the Phenyl Red
Broth. It gave a false negative result at first and was inconsistent with the
rest of the results. The lactose test was repeated and gave a result that was
consistent with the other data. Therefore, it was concluded that the unknown
was *Bacillus cereus*. *B. cereus* is one cause of food poisoning that has two
types of illnesses associated with it. The emetic illness causes nausea and
vomiting due to ingestion of a heat-stable toxin of the microorganism. The
other illness, which is called diarrhoeal, causes diarrhea and abdominal pain
due to ingestion of a large amount of the microorganism.