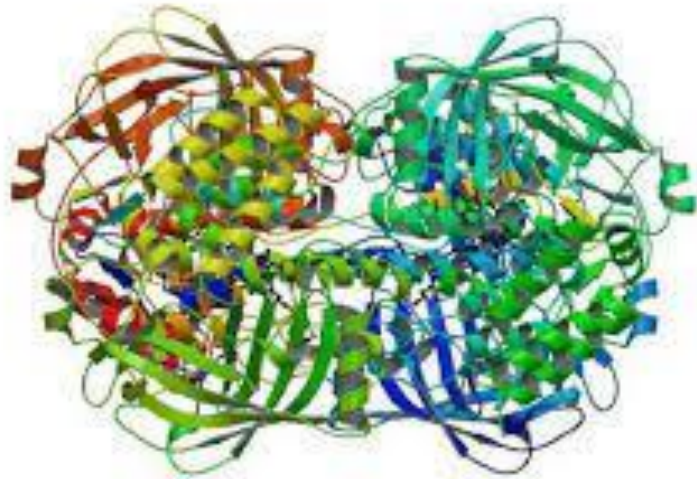


# Detection of Catalase in abnormal milk

**Catalase**



By

Dr.Zainab Abdul Hussein

## Catalase Test:-

The presence of catalase in every living cell. Leucocytes contain increased quantity of this enzyme. The determination of catalase will give fair indication of the presence of leukocytes. In udder infection the number of leukocytes is increased in the milk, Therefore, Catalase determination will indicate about the presence or absence of infection. Catalase is not present in significant quantities in normal milk except in the early stage (colostrum) or

very late stages of lactation. The amount of catalase present is determined by the ability to break down the Hydrogen Peroxide ( $H_2O_2$ ) to Oxygen and Water.



## ***Procedure of catalase test:***

### ***A-SIMPLE CATALASE TUBE TEST***

1. Use 20 of pipette to transfer 15ml of will mixed raw milk sample to sterile simple graduated catalase tube.
2. Fill the 5 ml pipette with hydrogen peroxide solution (1%) and deliver in to the simple catalase tube . the hydrogen peroxide must be fresh.
3. Cork by rubber corking in which a small glass tube is inserted .
4. Invert the simple catalase tube (upside down) and incubated at 37c for 2 h.
5. take the tube out and record the amount of liberated in the closed end of the tube .
6. if the amount of the liberated oxygen is more tha 2.5 ml ,it will indicate that the milk of low keeping quality or mastitis milk



## B-Einhorn Catalase tube Test

1-measure accurately 15 ml of well mixed raw milk sample and placed in a sterile Einhorn tube

2-fill the 5 ml pipette with( H<sub>2</sub>O<sub>2</sub> 1%)and transfer to the Einhorn tube

3-invert tube slowly till the (H<sub>2</sub>O<sub>2</sub>)milk mixture fills its closed narrow end .

4-Cork by rubber corking.

5-Incubate the tube at 37c for 2h.

6-take the tube out and record the amount of librated oxygen in the closed narrow end .

7-if the amount of the liberated gas is more than 2.5 ml ,it will indicate mastitis milk or milk of low keeping quality and interpret the result according to the table

Milk grade	Liberated oxygen(ml)
good	0-2
fair	2-5
bad	Greater than 5



The image features a vibrant blue background with several white milk splashes of varying sizes and directions, creating a dynamic and fresh appearance. The words "Thank you" are written in a white, elegant cursive script, positioned centrally across the middle of the frame. The overall composition is clean and celebratory.

*Thank you*