

Genus: SALMONELLA

MORPHOLOGY:

- Gram negative bacilli (pink).
- Short to medium size rod.
- (2-4 μ length & 0.4 μ thickness).
- Non- sporulated & capsule may be formed in some spp.
- Most of strains are motile with long peritrichous flagella except *S.pullorum* & *S.gallinarum* which are non motile salmonella.
- Arrangement scattered singly or in pairs.



CULTURAL CH:

- 1- Facultative anaerobic or aerobic.
- 2- Optimum temp 37 °C but it can grow at wide range of temp.
Between 15-41 °C.
- 3- Grow on ordinary nutrient agar.

4-Grow on MacConKey agar media =non lactose fermenter (yellow to white) colonies appear after 18-24 hr easily appears as smooth rounded, glistening, colorless or pale creamy in color.

5-Colonies are easily dissociating (smooth, rough) rounded, irregular, dry, rough colonies.

6-The fact that commonly exist on intestinal tract together with other MO there for it is isolated require used pre-enrichment fluid media such as selenite -F broth or tetrathionate broth which inhibit growth of coliforms and non-pathogenic M. O. and accelerate growth of salmonella.

7-Fecal sample is inoculated in pre-enriched fluid media at 37°C for 16-18hr then inoculated again in MacConkey agar at 37°C for 24-48 hours.

Colonies appear pale creamy, colorless colonies.

8-On XLD –red colony with black center.

BIOCHEMICAL REACTION:

1- Oxidase test –ve.

2- Catalase test +ve for all spp.

3- IMVIC (-ve , +ve , -ve , +ve)

4- Nitrate reduction test +ve .

5- Gelatin slowly liquefied.-

6- On triple sugar iron agar media (H₂S is formed and gases are produced)

7- Salmonella not ferment lactose, sucrose, sulicin, dulcitol but ferment glucose, arnilose , xylose , mannitol with acid gases .

DISEASE PRODUCED BY SALMONELLA MO

In human :-

S. typhi

S. paratyphi A.B.C

S. typhimurium

Cause, Enteric paratyphoid in man & paratyphoid fever and food poisoning in man

-Incubation period is 24hr.

-Symptoms appear as vomiting, diarrhea, abdominal pain, rise temp.

Mortality rate is 10% due to ingestion of contaminated (food).-