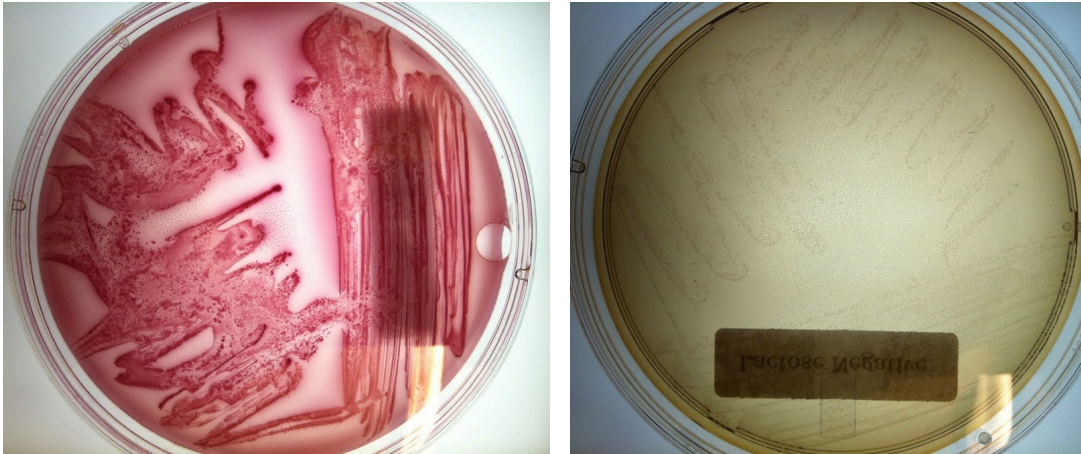


Ex019 – Gram Negative Rods

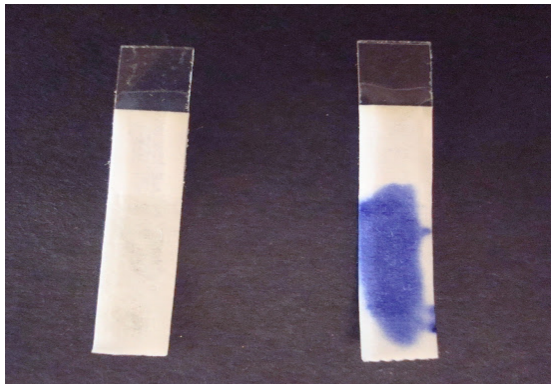
MacConkey Agar plate



Selective Media: Gram negative bacteria grow
Gram positive bacteria inhibited

Differential media: + Media or colonies turn hot pink; Ferments lactose
- Clear colonies/media; Does not ferment lactose. (some may have a slight pink color due to the transmittance of the media color through the colony).

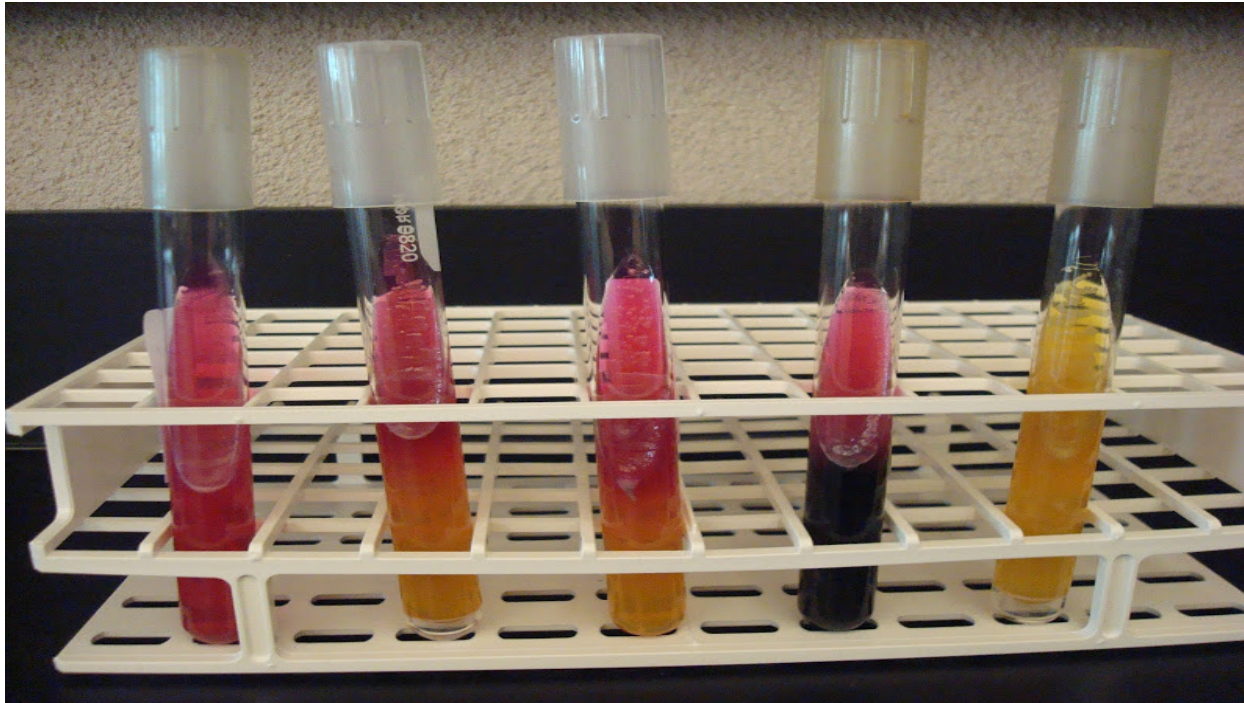
Oxidase test



+ = Purple develops within 20 seconds
- = No color develops within 20 seconds

Ex019 – Gram Negative Rods

Kliger Iron Agar (KIA) slant



Butt of KIA tube:

Yellow butt = positive glucose fermentation

Red butt = negative glucose fermentation

Slant of the KIA tube:

Yellow slant = positive lactose fermentation

Red slant = negative lactose fermentation

Gas Production from carbohydrate fermentation:

Bubbles, splitting, or pushing up of the agar = positive for gas

Hydrogen sulfide production in the media:

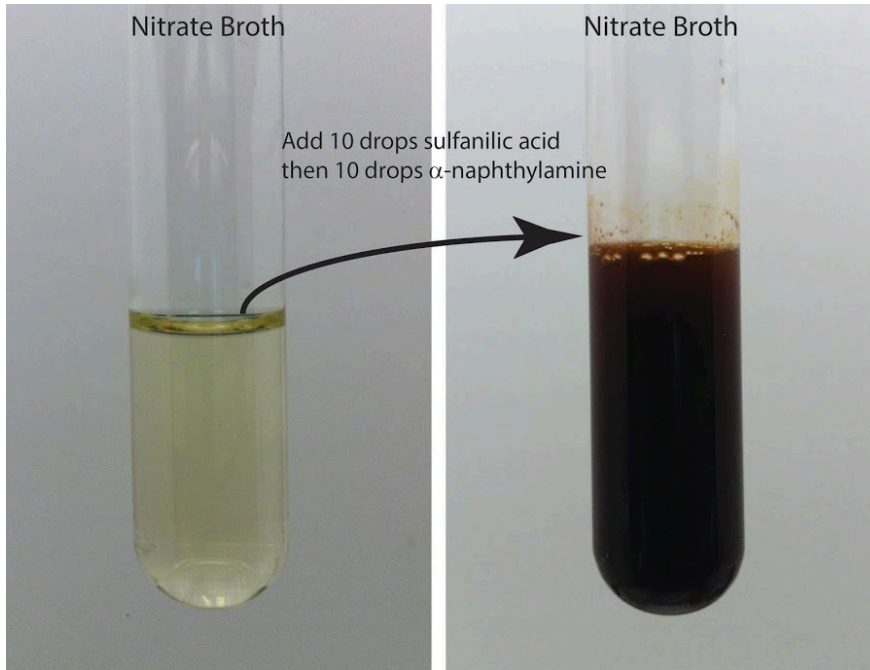
Black precipitate in the butt of KIA tube = positive for hydrogen sulfide production

NOTE: Black precipitate often masks yellow (+) for glucose fermentation

IF Black then also Yellow in butt of KIA.

Ex019 – Gram Negative Rods

Nitrate Reduction Test



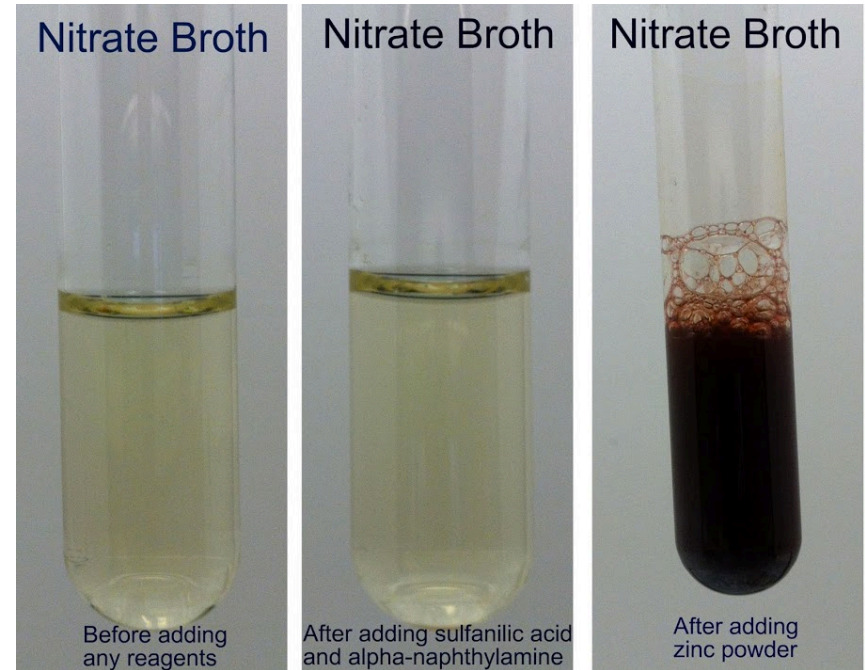
Nitrate Reduction Test

After adding sulfanilic acid and alpha-naphthylamine:

Positive = red color (nitrate was reduced to nitrite);

Nitrate reductase is present in bacteria

If no color change occurs, then add zinc



Nitrate Reduction Test

After adding zinc:

Positive = no color change occurs (nitrate was reduced to nitrogen gas or ammonia). Nitrate AND Nitrite reductase are present in bacteria.

Negative = Red color develops.