


XLD according to ISO 6579 : 2002

- Selective medium for isolation, third step of the standard protocol
- Included in the Annex D for primary production samples
- End pH should be 7.4 +/- 0.2 at 25°C
- Should be incubated at 37°C +/- 1°C
- Avoid isolation difficulties using 2 plates using a single loop, dry conscientiously the plates before use

XLD composition according to ISO 6579 : 2002

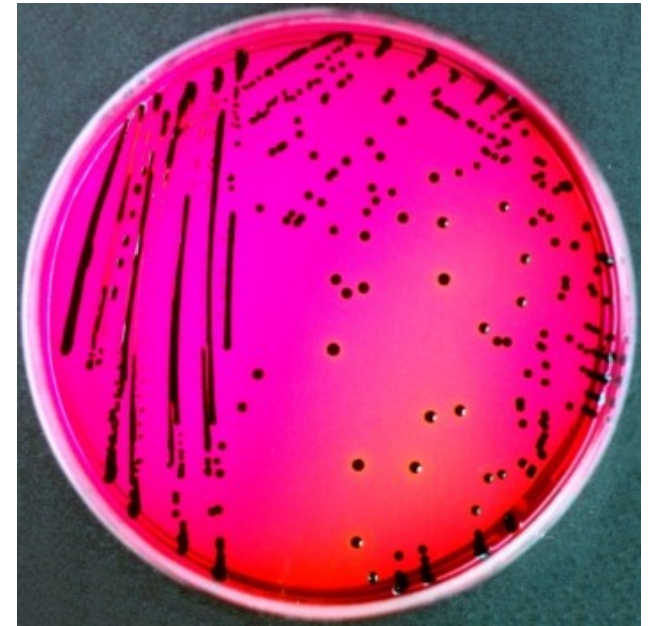
Yeast extract powder		3,0 g
Sodium chloride (NaCl)		5,0 g
Xylose		3,75 g
Lactose		7,5 g
Sucrose		7,5 g
L-Lysine hydrochloride		5,0 g
Sodium thiosulfate		6,8 g
Iron(III) ammonium citrate		0,8 g
Phenol red		0,08 g
Sodium deoxycholate		1,0 g
Agar		9 g to 18 g ¹⁾
Water		1 000 ml

XLD according to ISO 6579 : 2002

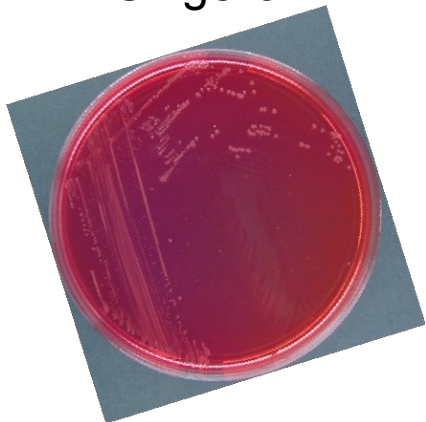
- Contains 2 inhibitors of Gram positive bacteria but at low concentration : desoxycholate and sodium thiosulfate
- Growth is promote firstly by Lactose or sucrose inducing acidity... Salmonella are negative for both
- Salmonella growth is promote by Lysine and peptone...
alkalinisation
- Phenol red change in color around and under the colony
: yellow if acid deep red if basic
- Presence of the complex Ferric ammonium citrate /
Sodium thiosulphite allows formation and precipitation of
H₂S in black
- => Salmonella appears after 24+/-3 h as large colonies
with black centre on lightly transparent reddish zone

Salmonella on XLD according to ISO 6579 : 2002

- Salmonella in pure culture



Shigella



Coliforms : lactose +





Salmonella after positive sample enrichment

Rambach agar

- One of the second medium for isolation
- Composition in g/L
 - peptone 8.0
 - sodium chloride 5.0
 - sodium deoxycholate 1.0
 - BCIG (Bromo-Chloro-Indoxy Galactopyranoside) 1.5
 - propylene glycol 10.5
 - agar-agar 15.0.

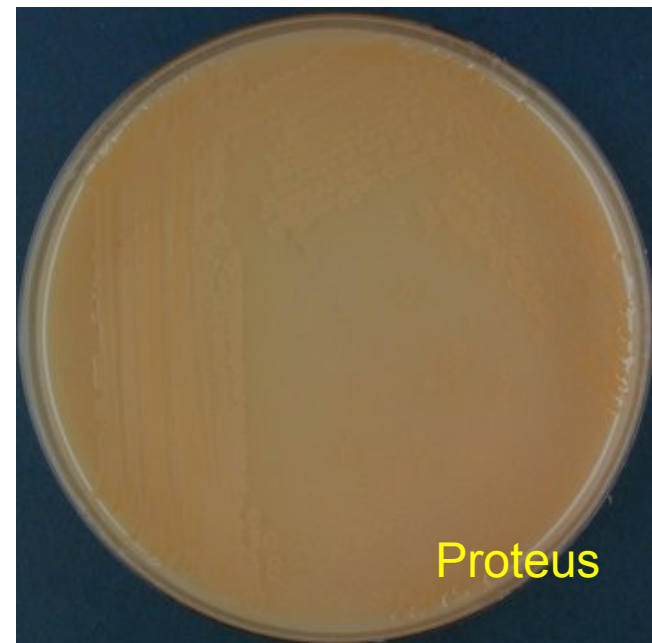
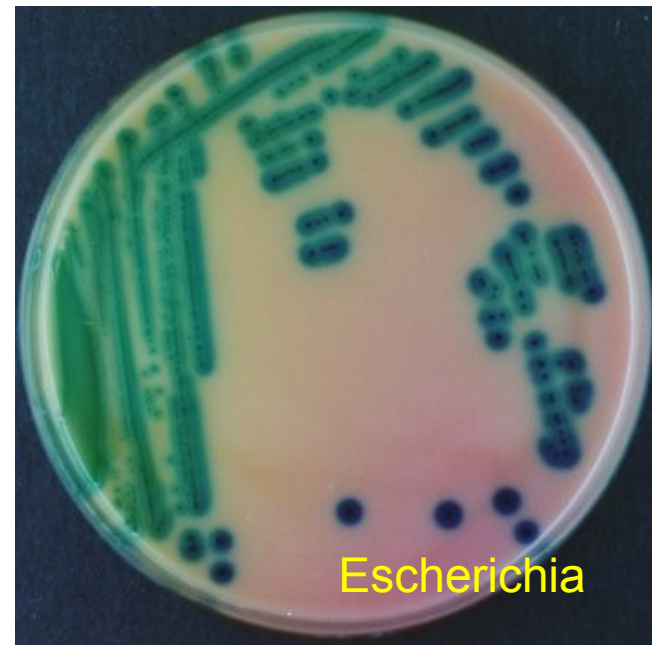
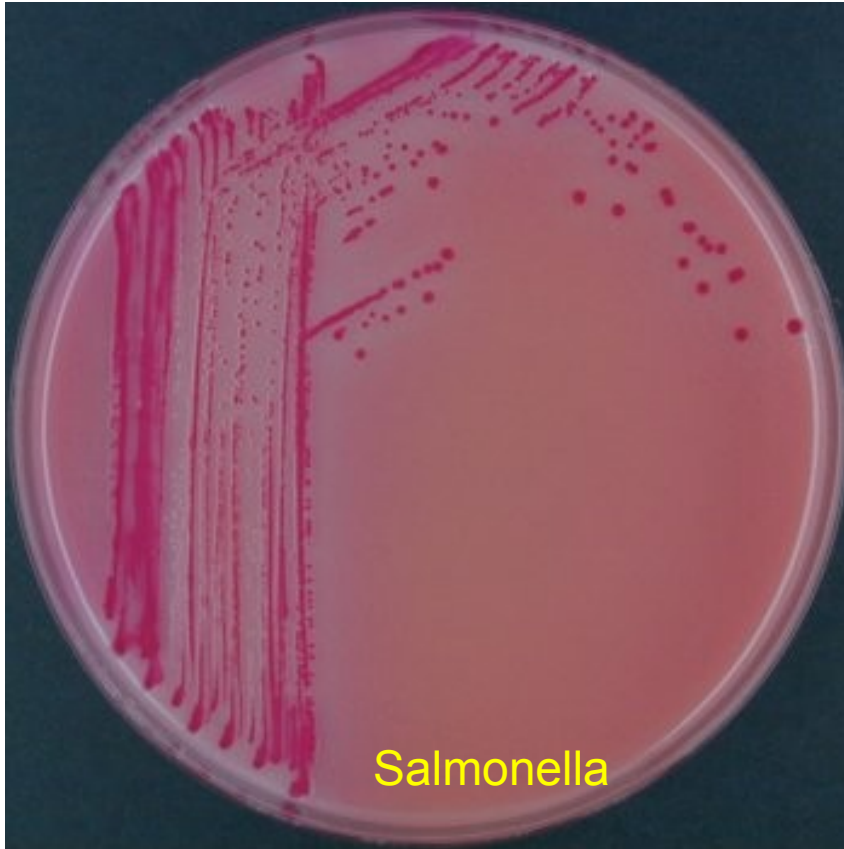
Rambach agar

- The amount of nutritive substrates enable Enterobacteriaceae to multiply readily. The peptone use by the micro-organisms for their growth inducing a alkaline evolution of pH indicator : yellow brown colonies
- Sodium desoxycholate inhibits the accompanying Gram-positive flora.
- Adding propylene glycol to the culture medium. *Salmonella* forms acid with propylene glycol. The neutral red indicator change in deep red. Colonies are different in shape but deep pink/red in color.(As do some Citrobacter for example)

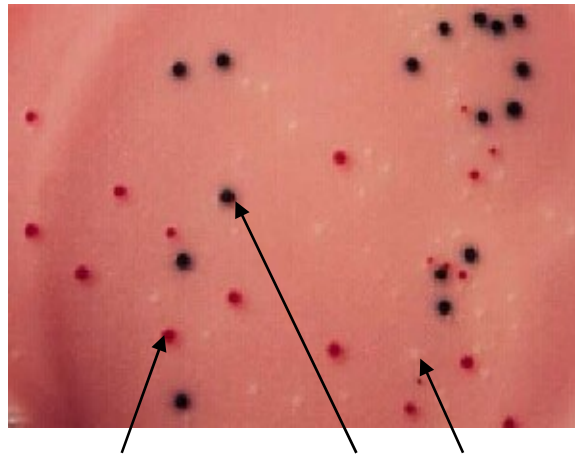
Rambach agar

- In order to differentiate coliforms from *Salmonellae*, the medium contains a chromogenic indicator the presence of β -galactosidase splitting, a characteristic for coliforms.
- Coliform micro organisms grow as blue-green if they do not use the propylene glycol (coliforms) or blue-violet colonies if they do (some *Citrobacter*).
- Other Enterobacteriaceae and Gram-negative bacteria, such as *Proteus*, *Pseudomonas*, *Shigella* grow as colourless-yellow colonies.

Rambach agar



Rambach agar



Salmonella Enteritidis, E.coli, Proteus