



## Tryptone Type-I (Casitose Type-I)

RM014

### Principle And Interpretation

Tryptone Type-1 (Casitose Type-I) is an enzymatic digest of milk protein, very rich in amino nitrogen that meets Pharmacopeial specification. It is used in the production of Sterility Testing Media such as Tryptone Soya Agar and broth, Fluid Thioglycollate Medium etc, and various Diagnostic Media. It is also used in media for fermentation processes to produce antibiotics and toxins. It is equivalent to Casein Enzyme Hydrolysate Type I.

### Quality Control

#### Appearance

Off white to light yellow homogenous free flowing powder, having characteristic odour but not putrescent.

#### Solubility

Freely soluble in distilled/ purified water, insoluble in alcohol and ether.

#### Clarity

2% w/v aqueous solution remains clear and neutral without any haziness after autoclaving at 15 lbs pressure (121°C) for 15 minutes.

#### Reaction

Reaction of 2% w/v aqueous solution at 25°C.

#### pH

6.20 - 7.20

#### Microbial Load:

##### Total aerobic microbial count (cfu/gm)

By plate method when incubated at 30-35°C for not less than 3 days.

Bacterial Count : <= 2000 CFU/gram

##### Total Yeast and mould count (cfu/gm)

By plate method when incubated at 20-25°C for not less than 5 days.

Yeast & mould Count : <= 100 CFU/gram

#### Test for Pathogens

1. *Escherichia coli* - Negative in 10 gms of sample 2. *Salmonella* species - Negative in 10 gms of sample 3. *Pseudomonas aeruginosa* - Negative in 10 gms of sample 4. *Staphylococcus aureus* - Negative in 10 gms of sample 5. *Candida albicans* - Negative in 10 gms of sample 6. *Clostridia* - Negative in 10 gms of sample

#### Degree of digestion

As per method specified in USP 32, a. Absence of undigested protein b. Presence of proteoses c. Presence of tryptophan

#### Nitrite test

As per method specified in USP 32 Negative: No development of pink or red colour.

#### Microbial Content

As per method specified in USP 32 <=Total of 50 microorganisms or clumps in 10 consecutive fields.

#### Bacteriological Testing

Bacteriological tests carried out as per USP 32 where respective medium is prepared by using Tryptone under test.

#### Test for fermentable carbohydrate

Medium : 2% Tryptone Type-I (Casitose Type-I) w/phenol red broth w/durhams tube. After inoculation with test culture and incubation for 24 hours at 35-37°C

*Escherichia coli* ATCC 25922 No acid production or only trace in the inner tube, no gas production, (Positive test)

#### Production of acetyl methyl carbinol

Medium : 1% Tryptone Type-I (Casitose Type-I) 0.5% of dextrose and 0.5% sodium chloride in water. After inoculation with test culture and incubation for 24 hours at 35-37°C .

*Enterobacter aerogenes* ATCC 13048 Formation of pink colour (Positive test).

*Escherichia coli* ATCC 25922 No formation of pink colour (Negative test).

**Production of H<sub>2</sub>S**

Medium :1% Medium :1%Tryptone Type-I (Casitose Type-I) in water. After inoculation with test culture and incubation for 24 hours at 35-37°C .

*Salmonella Typhi* ATCC 6539                      The lead acetate test paper shows brownish blackening (lead sulphide)

**Production of Indole**

Medium : 0.1% Tryptone Type-I (Casitose Type-I) in water. After inoculation with test culture and incubation for 24 hours at 35-37°C.

*Escherichia coli* ATCC 25922                      Appearance of distinct pink to red colour ring (Positive test).

*Enterobacter aerogenes* ATCC 13048                      No formation of pink to red coloured ring (Negative test).

**Cultural response**

Cultural response observed after incubation at 35-37°C for 24 hours by using 2% Medium: 1%Tryptone Type-I (Casitose Type-I), 0.5% sodium chloride and 1.5% agar in water, pH 7.2-7.4

**Cultural Response****Organism****Growth**

*Escherichia coli* ATCC 25922

Characteristic, luxuriant growth

*Pseudomonas aeruginosa* ATCC 27853

Characteristic, luxuriant growth

*Enterobacter aerogenes* ATCC 13048

Characteristic, luxuriant growth

*Salmonella Typhi* ATCC 6539

Characteristic, luxuriant growth

*Staphylococcus aureus* ATCC 25923

Characteristic, luxuriant growth

*Streptomyces albus* ATCC3004

Characteristic, luxuriant growth

*Streptococcus pyogenes* ATCC 19615

Luxuriant w/beta haemolysis (with addition of sterile 5% sheep blood in above medium after 48 hours of incubation at 35-37°C).

*Neisseria gonorrhoeae* ATCC 19424

Luxuriant (with addition of sterile 10% sheep blood to above medium heated to 80 to 90°C until blood has to turned chocolate brown and incubated in 10% CO<sub>2</sub> atmosphere after 48 hours of incubation at 35-37°C).

**Chemical Analysis**

Total Nitrogen                      >= 12.0%

Amino Nitrogen                      >= 3.50%

Sodium chloride                      <= 5.0%

Loss on drying                      <= 5.0%

Residue on ignition                      <= 12.0%

**Storage and Shelf Life**

Store between 10-30°C in tightly closed container and away from bright light. Use before expiry date on label. On opening, product should be properly stored in dry ventilated area protected from extremes of temperature and sources

Seal the container tightly after use.

Revision : 8/ 2018