

TRYPTIC SOY AGAR (TSA)

INTENDED USE

Remel Tryptic Soy Agar (TSA) is a solid medium recommended for use in qualitative procedures for the isolation and cultivation of a wide variety of organisms. Tryptic Soy Agar slants may be used to cultivate, store, and ship bacterial cultures.

SUMMARY AND EXPLANATION

This medium is prepared according to the standard formula for Soybean-Casein Digest Agar Medium in the *United States Pharmacopeia (USP)*.¹ It is also listed in *Standard Methods for the Examination of Water and Wastewater* and the *Compendium of Methods for the Microbiological Examination of Foods*.^{2,3} This medium is also recommended for use in *Official Methods of Analysis* of AOAC International, the International Dairy Federation (IDF), and the United States Department of Agriculture (USDA).^{4,5}

PRINCIPLE

Casein and soy peptones provide nitrogen, amino acids, and peptides necessary for bacterial growth. Dextrose is a ready source of energy. Sodium chloride is a source of essential electrolytes and maintains osmotic equilibrium. TSA may be supplemented with blood to facilitate the growth of more fastidious bacteria or antimicrobial agents to permit the selection of various microbial groups from mixed flora.

REAGENTS (CLASSICAL FORMULA)*

Casein Peptone.....	15.0 g	Soy Peptone	5.0 g
Sodium Chloride.....	5.0 g	Agar.....	15.0 g
		Demineralized Water.....	1000.0 ml

pH 7.3 ± 0.2 @ 25°C

*Adjusted as required to meet performance standards.

PRECAUTIONS

This product is For Laboratory Use only. It is not intended for use in the diagnosis of disease or other conditions.

PREPARATION OF DEHYDRATED CULTURE MEDIUM

1. Suspend 40 g of medium in 1000 ml of demineralized water.
2. Heat to boiling with agitation to completely dissolve.
3. Sterilize by autoclaving at 121°C for 15 minutes or following established laboratory procedures.
4. If blood is to be added, cool medium to 45-50°C and aseptically add defibrinated blood to a final concentration of 5-10%.
5. Dispense into appropriate containers.

PROCEDURE

1. Consult current editions of appropriate references for the recommended procedure for sample preparation, inoculation, and testing.¹⁻⁵
2. Incubate in ambient air for the proper time duration at the appropriate temperature following established laboratory procedures.

QUALITY CONTROL

Each lot number of Tryptic Soy Agar has been manufactured, packaged, and processed in accordance with current Good Manufacturing Practice regulations. All lot numbers have been tested using the following quality control organisms and have been found to be acceptable. Testing of control organisms should be performed in accordance with established laboratory quality control procedures at or prior to the time of use.

CONTROL

Aspergillus brasiliensis ATCC® 16404
Bacillus subtilis ATCC® 6633
Candida albicans ATCC® 10231
Escherichia coli ATCC® 8739
Pseudomonas aeruginosa ATCC® 9027
Staphylococcus aureus ATCC® 6538

INCUBATION

Ambient, up to 5 days @ 30-35°C
Ambient, up to 72 h @ 30-35°C
Ambient, up to 5 days @ 30-35°C
Ambient, up to 72 h @ 30-35°C
Ambient, up to 72 h @ 30-35°C
Ambient, up to 72 h @ 30-35°C
Ambient, up to 72 h @ 30-35°C

RESULTS

Good growth
Good growth
Good growth
Good growth
Good growth
Good growth
Good growth

BIBLIOGRAPHY

1. The United States Pharmacopeia. 2007. 31st ed. United States Pharmacopeial Convention, Rockville, MD.
2. Eaton, A.D., L.S. Clesceri, E.W. Rice, and A.E. Greenberg. 2005. *Standard Methods for the Examination of Water and Wastewater*. 21st ed. APHA, Washington, D.C.
3. Downes, F.P. and K. Ito. 2001. *Compendium of Methods for the Microbiological Examination of Foods*. 4th ed. APHA, Washington, D.C.
4. Food and Drug Administration. 2000. *Bacteriological Analytical Manual Online*. AOAC International, Gaithersburg, MD.
5. United States Department of Agriculture. 2008. *Laboratory Guidebook*. Retrieved January 27, 2010 from: http://origin-www.fsis.usda.gov/Science/Microbiological_Lab_Guidebook/index.asp.

Refer to the front of Remel *Technical Manual of Microbiological Media* for **General Information** regarding precautions, product storage and deterioration, specimen collection, storage and transportation, materials required, quality control, and limitations.

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