of which has been shown to accelerate the conversion of citrulline to ornithine (Slade, Arch. Biochem. and Biophys., 42, 204, 1953).

Studies using phosphate buffers indicated that carbon dioxide formation occurred optimally in the range pH 5.9–6.1 in the glucose-arginine mixture, which is in agreement with Slade's observation (Arch. Biochem. and Biophys., 42, 204, 1953). Lactic acid production was also maximal in this range.

A CATALASE NEGATIVE MICROCOCCUS PYOGENES VAR. AUREUS

PAUL R. LUCAS AND H. W. SEELEY

Laboratory of Bacteriology, College of Agriculture, Cornell University, Ithaca, New York

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Dr. T. F. Judefind of the College of Medical Evangelists at Loma Linda, California, isolated a gram positive, coagulase positive coccus from normal male urine with characteristics typical of Micrococcus pyogenes var. aureus with the unusual exception that catalase activity could not be found. The culture was sent to this laboratory for examination and was examined in the laboratory of Dr. James B. Evans at the American Meat Institute Foundation in Chicago. The original identification of the organism as a catalase negative Micrococcus pyogenes var. aureus has been verified.

The culture gives the following reactions: Acid is produced from glucose, lactose, maltose, sucrose, mannitol (aerobically and anaerobically) and glycerol, but not from xylose, fructose, raffinose, or inulin; nitrites are reduced to nitrates; arginine, esculin, and sodium hippurate are hydrolyzed whereas starch is not; gelatin is liquefied; an acid curd is produced in litmus milk; the coagulase test is strongly positive; no hemolysis in horse-blood agar occurs; on 1 per cent glucose agar a moist, smooth, yellowish growth is produced; hydrogen peroxide cannot be detected in aerated beef infusion broth cultures although growth is good; catalase activity cannot be shown by adding 3 per cent H₂O₂ to colonies on solid media of low glucose content. In manometric experiments, heavy cell suspensions and cell extracts prepared by sonic treatment failed to release oxygen from hydrogen peroxide.

The requirements of this culture for vitamins coincide with those found by Evans (J. Bacteriol., 55, 793, 1948) in his study of coagulase positive staphylococci, i.e., only nicotinic acid and thiamin are required.

Although the catalase test used commonly to distinguish streptococci from staphylococci has proven of great value, it is apparent that on rare occasions naturally occurring coagulase positive, catalase negative staphylococci may be encountered.

USE OF A DEHYDRATED CULTURE MEDIUM FOR SIMPLIFIED PREPARATION OF STREPTOCOCCAL CULTURES FOR GRIFFITH'S SLIDE AGGLUTINATION

MURRAY M. STREITFELD

National Children's Cardiac Hospital, Miami, Florida

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Serological typing of strains of Group A beta hemolytic streptococci by Griffith's slide agglutination technique (Griffith, J. Hyg., 34, 542, 1934) has been hampered by time consuming preparation of media for growth of test cultures and the tendency of cultures often to agglutinate spontaneously in these media. Media generally used contain fresh preparations of animal tissues, as in beef heart-trypsin digest broth (Pauli and Coburn, J. Exptl. Med., 65, 595, 1937) or modi-
fied Todd-Hewitt broth (Swift in Dubos' *Bacterial and mycotic infections of man*, p. 290, J. B. Lippincott Co., Phila., 1948). It has been suggested (Lancefield, J. Exptl. Med., 71, 521, 1940) that growth of Group A beta hemolytic streptococci in the latter medium at room temperature rather than at 37 C often overcomes their tendency to agglutinate spontaneously.

It is the object of this note to report that cultures of *Streptococcus pyogenes*, grown in a commercially available medium (trypticase soy broth, B.B.L.) and incubated at room temperature (23 C to 28 C), were suitable for Griffith’s slide agglutination in 65 of 66 strains tested. These strains had been isolated from the throats of school children during a study in Miami, Florida (Saslaw and Streitfeld, Public Health Repts. (U. S.), 69, 877, 1954), and had been typed by the Lancefield precipitin technique by Dr. Elaine L. Updyke of the Streptococcus Laboratory, Communicable Disease Center, Chamblee, Georgia.

The cultures used were initially grown on slants of neopeptone infusion agar (Difco) enriched with sheep’s blood. They were transferred to Todd-Hewitt broth (Difco) containing 4 per cent defibrinated sheep’s blood and incubated for 18–24 hr at 37 C. After incubation, two large loopfuls of culture were transferred to tubes containing 10 ml tryptcase soy broth (B.B.L.) and the subcultures incubated for 18 hr at room temperature. The tryptcase soy broth cultures were centrifuged at 1,500 rpm for 15 min, the supernatant removed by capillary pipette, and the organisms evenly suspended in the remaining broth (0.1–0.2 ml) by repeated aspiration into the pipette. Griffith’s slide agglutination tests were then performed at room temperature, with controls consisting of cultures without any serum, cultures with normal serum (diluted 1:5 with physiological saline), and cultures with heterologous antistreptococcal sera. Test sera used were obtained in 1:5 dilution from Dr. R. E. O. Williams, Streptococcus Reference Laboratory, Public Health Laboratory Service, Colindale, London, and were cross-checked against homologous and heterologous types of streptococcal cultures.

The use of a commercially prepared, readily available culture medium and incubation of cultures at room temperature in the method herein described have been found to simplify and facilitate the preparation of test cultures of Group A beta hemolytic streptococci for serological typing by Griffith’s slide agglutination tests.