Fda bacteriological analytical manual (bam)

The FDA Bacteriological Analytical Guide to BAM Salmonella Testing Contract Laboratory receives many requests from cosmetics and food companies to outsource their microbiology testing. Many of these companies want testing to meet FDA BAM standards. BAM means the FDA's Bacteriological Analytical Guidelines (BAM). This is the FDA's guide to U.S. Food and Drug Administration, used to detect pathogens in the food and cosmetics industry. The FDA's Bacteriological Analytical Guidelines (BAM) is a set of procedures preferred by analysts in the laboratories of the U.S. Food and Drug Administration to detect pathogens (bacterial, viral, parasitic, as well as yeast and mold) and microbial toxins in food and cosmetic products. With the exception of some quick testing methods, all of these methods have been used and reviewed by FDA scientists as well as scientists outside the FDA. However, not all of these methods have been fully supported by joint studies. The FDA's full BACTeriological Analytical Guide contains standards regarding food sampling and food preparation, microscopic food research, study of food-related diseases, and standards for specific pathogens such as salmonella, listeria, yeast, mold, and more. If your organization needs microbiological food or cosmetic testing of BAM's Bacteriological Analytical Guidelines for Laboratory Tests, call the Contract Lab at 1-855-377-6821, or submit a bacteriological analytical inquiry to bam test online. Re-released Blog Post Promoter (BAM) The homepage of microbiological development detection techniques has always been driven by the demand for tests that are faster, cheaper, easier and more accurate. The pressure to improve procedures is particularly evident in microbial food safety, because traditional tests can involve many steps - resuscitation of stressed microbial cells, enrichment of several cells that may be present in the sample, a choice that results in the isolation of clean cultures, and then identification, which may require a combination of morphological, biochemical, immunological and genetic methods and possibly tests for inirence or toxicity using animal vaccinations. Often such test protocols take longer than the shelf life of the products analyzed. Proposed ways to speed up this procedure included initial improvements in the media and compacted cultivation. Automation then began to replace manual execution. In addition, indirect identification, i.e. (e.g., fatty acid profiles, nucleic acid sequences) or biophysical labels (FT-IR), which identify relevant biomarkers of organisms or genetic fingerprints, have begun to isolate viable microbes not as needed. These new tests - known as quick methods if they took hours rather than days, and how real-time testing if they took - yet, however, have not made traditional testing obsolete. There are good reasons why analysts should continue to have traditional skills for resuscitation, enrichment, isolation and detection of microorganisms. Often, some cultivation is necessary before there is enough material to apply a quick method or a real-time test. Then, too, products may contain substances that interfere with biochemical/molecular test labels. In addition, the presence of viable microbial insulation may still provide quantitative and infectious information that is otherwise un accessable, or be mandatory due to regulatory requirements and legal issues, or be useful later for retrospective studies such as the characteristics of new biomarkers. And, since no two types of tests have the same sensitivity, the old ones serve as convenient standards for falsehoods and false negative rates. The set version of the fast methods is interpreted differently depending on whether the results are positive or negative: negative results are considered final, but positive results require confirmation by another test. The FDA's Bacteriological Analytical Guidelines (BAM) is a set of procedures preferred by analysts in the laboratories of the U.S. Food and Drug Administration to detect food and cosmetic products of pathogens (bacterial, viral, parasitic, as well as yeast and mold) and microbial toxins. The content of the guide reflects the history of method development described above. With the exception of some of the quick methods listed in Annex 1 (currently obsolete and derived from BAM), all of these methods have been used and reviewed by FDA scientists as well as scientists outside the FDA. However, not all of these methods have been fully supported by joint studies. In some cases, joint research is not possible, as single test samples cannot be prepared (as with ute parasites). In other cases, the FDA needs to use the method before the time needed to achieve a full review. At first (1965, Edition 1), BAM was supposed to be the only means for information and standardization in the FDA. However, the reputation of management as a useful has spread beyond the agency. Requests for copies were widely circulated and it was decided to make BAM public. He went through 8 major editions, with, sometimes, changes between them. Since 1976 (Edition 4), BAM has been published and distributed by AOAC International. In 1998, edition 8, Revision A was released not only in print, but also electronically (CD-ROM version) AOAC. In 2000, BAM was available on the FDA/CFSAN website and was designated BAM online. In the continuous renewal was possible, and BAM's 20died editions were discontinued. In 2009, BAM content was transferred to the current FDA website. Each section bears the dates on which it was reviewed and revised and include contact information for users. Updates and changes after the publication of BAM Edition 8 Revision A, 1998 Introduction Date Review (s) (s) (mmm yy) Introduction March 00, June 12 Chapter 1. Food sample Apr 03 2. Microscopic study November 00 4. Listing of E. coli and coli bacteria coli Sep 02, February 13, July 17 4A. Diarrhea stick Escherichia Sep 02, Sep 09, December 12, July 13, July 14, August 16, October 18, 5. Salmonella Apr 03, Sep 05, Dec 05, June 06, Dec 07, February 11, November 11, August 12, February 14, May 14, December 15, August 16, February 20, 6. Shigella Oct 00, February 13 7. Campylobacter Mar 01 8. Yersinia Aug 07, 17 Oct 9. Vibrio 04 May 10. Listeria monocytogenes Jan 03, Feb 13, Jan 16, March 17, 12. Staphylococcus Staphylococcus March 16, 13A. Staphylococcus Enterotoxins: Micro-slide Double diffusion and ELISA-based Methods 11 13B. Staphylococcus Anterotoxin Detection Methods June 17 14. Bacillus cereus Jan 01, 12 February, 19 July 19A. Detection of cyclospor cayetanensis (Archive) June 17 19B. Molecular detection of Cyclospor cayetanensis June 17, October 17, 19. Yeast, mold and mycotoxins Apr 00 21A. Canned November 00 23. Microbiological methods for cosmetics August 01, May 16, January 17, July 17, 24. Identification of food bacterial pathogens using gene probes (filmed, October 10) October 10, 26B. Multi-laboratory verification of protocols for the concentration and detection of hepatitis A virus - Level 3 Check and application (new chapter, January 2014) Jan 14 28. Detection of enterotoxygenic vibrio cholera in food with polymerase chain reaction 12 March 29. Cronobacter (new chapter, March 2012) March 12 Appendix 1. Fast Methods (filmed, October 10) Jan 01, Oct 10 2. The most likely number is February 6, October 10 3. Guidelines for testing analytical methods for detecting microbial pathogens in foods September 11, December 19, 4. Food and Feed Items that are currently of interest to the FDA for microbiological testing methods Apr 12 Media M28a Campylobacter enrichment broth (Formula Bolton) Dec 00 M29a. Abeita Hunt-Bark Agar Dec 00 M30d. Semisolid Medium, modified, for biochemical identification Mar 01 M52. Enrichment broth, pH 7.3 ± 0.1 g. 00 M61. Hectoen Enteric (HE) Agar Aug 10 M79. Letin broth (modified) Aug 01 M103. Mobility Test Medium (Semisolid) Sep 00 M152a. Trypticase Soya Agar-Magniy sulfate-NaCl May 04 M154b. Trypticase (Triptic) Soy broth with 1% NaCl and 24% glycerol May 04 M156. Trypticase soy broth modified Jan 02 M179. Xylose Lisin Desoxycholate (XLD) Agar Jan 02, Aug 10 M188a. Universal prenrychment broth (without ammonium citrate ferric citrate) Dec 07 M189. Cellobyosis-Colistin (CC) Agar May 04 M190. Vibrio vulnificus Agar Mai 04 Vibrio parahaemolyticus sucrose Agar (VPSA) Mai 04 M192. Buffer Water Peptone (BPW) Sep 05 M192a. Modified Peptone buffer water with pyruvat (mBPWp) and Acriflavin-Cefsulodin-Vancomycin (ACV) Supplement September 09 Day-Angley broth Dec 05 M194. Tellurite Cefixime - Sorbitol McConky Agar (TC-SMAC) September 09, Aug 10 M195: Components and Instructions SHIBAM (New, Oct 12) Oct 12 MEndo MF Medium (BD #274930) (New, February 13) February 13 M197 LES Endo Agar (BD #273620) (New, February 13) Feb 13 M198 mTEC Agar (BD #233410) (New, February 13) February 13 Reagents R111. Butterfield phosphate-buffered diluted water February 13 R90. Peptone-Twin Salt off-prime 04 May R91. Sodium deoxycholate-0.5% in sterile dH2O (string test) May 04 R92. (SDS) Dodekiel sodium sulfate-10% in sterile dH2O May 04 R93. (SSC/SDS) Predecite sulfate sodium May 04 R97. Peptone Diluent, 0.5% (New, February 13) February 13 Microbiological Methods Information on selected FDA Bacteriological Analytical Guidelines (BAM) presents the agency's preferred laboratory procedures for microbiological analysis of food and cosmetics. AOAC International has published previous editions of this guide in the format of a notebook with a loose sheet, and most recently on CD-ROM. This online BAM is now available to the public. Some changes have been made to the methods since the previous version. A list of chapters updated since the last printed version (Edition 8, Revision A /1998) can be found in On The Bacteriological Analytical Guide. The following are members of the BAM Council. In addition, the latest changes for most chapters are described in a brief review history at the beginning of the method. There is also contact information by email for each chapter. The chapter numbers were saved in relation to the previous version. However, for this content table, the chapters were grouped into categories. Please send comments to Karen Jinneman. Chapter No Title Authors General Guidelines /Procedures 1 Food Selection and Preparation of a Sample of Homogenate W.H.

ANDREWS (retired) T.S. HAMMACK 2 Microscopic Food Study, as well as the Care and Use of the Microscope JR BRYCE P.L. POELMA (retired) 3 Aerobic Plate Count L.J. MATURIN (retired) J. PEELER (retired) 25 Food Study implicated in G.J. disease J JACKSON (retired) J.M. MADDEN (retired) W.E. HILL (retired) K.C. KLON- Methods for specific pathogens 4 Listing of E. coli and coliform bacteriaUpdated: 10/2020 P. FENG (RET). D. WEAGANT (retired)M.A. GRANT (Dec. W. BURKHARDT 4A Diarrhoeal Escherichia coliUpdated: 07/2020 P. FENG (retired) S.D. WEAGANT (retired) K. JINNEMAN 5 SalmonellaUpdated: 07/2020 W.H. ANDREWS (retired) H. WANG A. JACOBSON B. GE G. CHANG T. S. Hammack 6 SigellaUpdated : 02/2013 W.H. ANDREWS (retired) A. JACOBSON 7 Campilobacter J.M. HUNT (retired) C. ABEYTA T. TRAN (retired) 8 Yersinia enterocoliticaUpdated: 10/2017 S.D. FENG J.T. STANFIELD (retired) 9 Vibrio DEPAOLA JR. (retired) C.A. KAYSNER (retired) JESSICA JONES 28 Detection of enterotoxygenic vibrio cholera in food polymerase chain reaction W.H. KOCH (retired) W.L. PAYNE (retired) T.A. T.A. 03/2017 A.D. HITCHINS (retired) KAREN JINNEMAN YI CHEN 12 Staphylococcus aureusUpdated: 03/2016 SANDRA TALLENT JENNIFER HAIT R.W. BENNETT (retired) G.A. LANCETTE (retired) 14 Bacillus cereusRevision History: 10/2020 S. M. TALLENT A. KNOLHOFF E.J. RHODEHAMEL (retired) S.M. HARMON (retired) N. BELAY (retired) D.B. SHAH (retired) R. W. BENNETT (retired) 16 Clostridium perfringens E.J. RHODEHAMEL (retired) S.M. HARMON (retired) Contact: R.W. BENNETT 17 Klostidium Botulin G.M. SOLOMON (retired) T. LILLY, Jr. (retired) 18 Yeast, Mold and Mycotoxins V. TOURNAS, M.E. STACK (retired) P.B. MISLIVEC (Dec. H.A. KOCH, R. BANDLER 19 Parasitic animals in J.W. BIER (retired) G.J. JACKSON (retired) A.M. ADAMS, R.A. RUDE (retired) 19A Detection of cyclospor and cryptosporidium from fresh products: insulation and identification of polymeric chain reaction (PCR) and microscopic analysis. Note : Updated Method, Chapter 19B: Detection of Cyclospora cayetanensis in fresh foods using PCR in real time, available below. P.A. ORLANDI K. KRASAR L. CARTER D.T. CHU (retired) 19B Detection of cyclospor cayetanensis in fresh produce using real-time PCRNew 06/2017; Updated: 10/2017 H.R. MURPHY S. ALMERIA A.J. da SILVA 19C Dead-end Ultrafiltration to discover cyclospor cayetanensis from Agricultural WaterNew 07/2020 Mauricio Durigan Helen Murphy Kaiping Deng Matthew Kmet Samantha Lindemann Robert Newkirk Vishnu Y. Patel Jodi Laheschek Josh Warren Laura Eving Ravinder Reddy Alexander da Silva 26A Detection and quantitative evaluation of hepatitis A virus in clams polymerase chain reaction B.B. GOSWAMI (retired) 26B Hepatitis A Detection at FoodsNew 01/2014 J.W. WILLIAMS-WOODS G. HARTMAN W. BURKACTER 29 Croncacter Y T. HAMMACK Microbial Toxin Methods 13B Staphylococcus Anterotoxin Detection Methods 06/2017 S. TALLENT R.W. BENNETT J.M. HAIT Additional Methods 20A Inhibitors in milk L.J. MATURIN (retired) 20B Fast HPLC Definition of sulphamethazine in milk J.D. WEBER (retired) M.D. SMEDLEY 21A Examination of canned products W.L. LANDRY , A.H. SCHWAB, G.A. LANCETTE (retired) 21B Modification of the gas head space analysis methodology using SP4270 Integrator W.L. LANDRY M.J. URIBE 22A Examination of Metal Containers for The Integrity of R.C. LIN (Retired) P.H. KING (retired) M.R. JOHNSTON (retired) 22B Examination of glass containers for the integrity of R.C. LIN (retired) P.H. KING (retired) M.R. JOHNSTON (retired) 22C Examination of flexible and semi-flexible food containers for the integrity of G.W. Jr. (NFPA) 22D Examination of Containers for Integrity: Glossary and Links R.C. LIN, P.H. KING M.R. JOHNSTON 23 Microbiological Techniques for CosmeticsPre prepared: 07/2017 HUANG A.D. HITCHINS (retired) T.T.TRAN (retired) J.E. McCARRON (retired) 27 Screening Method for Phosphatease (residual) in G.K. Cheese Appendix KIOBRO Appendix 2 Most likely definition of number from serial dilutions Updated: 10/2020 R. BLODGETT (retired) 3 Guidelines for testing analytical methods for detecting microbial pathogens in food and feed, 3rd edition (PDF, 0.929 Mb, December 2019), FDA Foods Program Regulatory Science Committee (RSSC), U.S. Food and Drug Administration, Food Administration Updated: 12/2019 Guidelines for Testing Analytical Methods for Detecting Microbial Pathogens in Food and Feed, 2nd Edition (PDF, 1.32Mb, May 2015), FDA Food and Veterinary Medicine Science and Research Steering Committee, U.S. Food and Drug Administration Updated: 09/2015. (This version is archival content. For the current version see above) Guidelines for testing analytical methods for detecting microbial pathogens in foods, Executive Committee of the Food Program, 1st Edition, September 2011;). (This version is archival content. For the current version, see above) Appendix 4 Food and Feed Items that have a current interest for the FDA for microbiological screening methods T. HAMMACK DISCLAIMER: The following methods and applications have been archived. They are only included for reference purposes. For more information contact the Chairman of the BAM Council: Karen Jinneman BAM Council Updated: October 2016 Member Joining Deadline Karen Jinneman, Chairman of orA 2016-2019 William Burkhardt CFSAN 2016-2019 Maureen Davidson CVM 2016-2019 Peter Feng CFSAN 2016-2019 Beilei GeM 2016-2016 2019 Greg Garst ORA 2016-2016-2019 Thomas Hammack CFSAN 2016-2019 Sunee Himathongkham OFVM 2016-2019 Julie Kase CFSAN 2016-2019 Pat Regan ORA 2016-2019 Introduction for brain testing or microbial, not covered by BAM, or to analyze the sample, which may require special processing or processing, the user refers to the official methods of analysis of AOAC International; Standard methods of examination of dairy products, recommended procedures for studying sea water and shellfish, as well as a compendium of the methods of microbiological examination of food products of the American Public Health Association; also, The Environmental Protection Agency's Standard Water Analysis Methods. The FDA works closely with AOAC International, APHA, EPA, the International Dairy Federation (IDF/FIL) and, as part of Codex Alimentarius, the International Organization for Standardization (ISO). However, not all of the methods that emerge in BAM have been jointly evaluated by one or more of these organizations. The text for BAM has been reviewed by scientists outside and at the FDA. Introduction to the 8th edition, Revision A (1998) Innovations in the methods of microbiological analysis of food continue to appear rapidly. Edition 8 (1995) of the Bacteriological Analytical Guide (BAM-8) contained numerous refinements of procedures and references from the 1992 edition. List of commercially available test kits and discussion discussion the methods in Annex 1 have been thoroughly reviewed. Three chapters were added: the use of reverse transcription (RT) and polymerase chain reaction (PCR) to identify and quantify shellfish contamination of hepatitis A virus (Chapter 26); new procedures for alkaline phosphate test to determine whether dairy products with pasteurized milk are prepared (Chapter 27); and the use of PCR to detect Vibrio toxic cholera in food (Chapter 28). For this print (BAM - 8A), the following has been revised or added: Campylobacter (Chapter 7), Yeast and Mould (Chapter 18), Cyclospor (Chapter 19 (Parasites) and Enterotoxins Staphylococcus (Chapter 13). Annex 1 has updated quick method tables and revised and corrected tables in Annex 2 on MPN. App 3 reflects changes in multimedia and corrects errors in the 8th edition. This does not necessarily apply to the quick methods listed in Annex 1: this app is a list of different kits that are commercially available. , and listing the method in this application is not a recommendation. To test for the body or microbial toxin not covered by BAM, or to analyze a sample that may require special treatment or treatment, the user refers to the official methods of analysis of AOAC International; Standard methods of examination of dairy products, recommended procedures for studying sea water and shellfish, as well as a compendium of the methods of microbiological examination of food products of the American Public Health Association; also, The Environmental Protection Agency's Standard Water Analysis Methods. The FDA works closely with AOAC International, APHA, EPA, the International Dairy Federation (IDF/FIL) and, as part of Codex Alimentarius, the International Organization for Standardization (ISO). However, not all of the methods that emerge in BAM have been jointly evaluated by one or more of these organizations. The text for BAM has been reviewed by scientists outside and at the FDA. External reviewers included. Entice, J. Smith, M. Doyle, N. Stern, R. Tvedta, S. Tatini, R. Labbe, M. Eklund, M. Cousin, L. Aveland, R. Richter, D. Cabara, M. Curiale and employees of the National Association of Food Processors. Feedback from FDA field microbiologists who made valuable suggestions on content and practicality was coordinated by Meredith A. Gran and her collaborators. The 8th edition of BAM was produced by the Department of Technical Editing, the Food Safety and Applied Centre FDA Lois A. A. produced by Dorothy H. Hughley. This version (Editorial A) of the 8th edition, was produced and produced by Dr. Robert I. Merker, Office of Special Research Skills, CFSAN, FDA. Hypertext Source: Bacteriological Analytical Guide, 8th Edition, Revision A, 1998. 1998.