Biosafety-related Flow Cytometry Publications


First paper discussing the efficiency of aerosol control measures on cell sorters using T4 bacteriophage to tag aerosol droplets


Describes the use of lambda bacteriophage for measuring aerosol containment on a high-speed cell sorter with the settle plate method and with active air sampling


The first chapter addressing the various laboratory aspects involved in biohazardous sorting experiments and describing a standardized method for assessment of aerosol containment using T4 bacteriophage


Describes the effect of various aerosol control measures on containment as assessed with T4 bacteriophage using settle plates and active air sampling; presents also results on measuring the release of airborne particles using a particle counter


Comprehensive official ISAC-approved guideline for performing sorting experiments using unfixed cells and known infected sort samples including a detailed protocol for aerosol containment measurement using T4 bacteriophage


Detailed step-by-step protocol for measuring aerosol containment using T4 bacteriophage with the settle plate method and with an active air sampling method


Describes aerosol control modifications on a cell sorter


Addresses the various safety aspects of performing analytic flow cytometry experiments on samples known to be infected with HIV


Q and A about the practical laboratory aspects of analytic flow cytometry of HIV-infected samples


Review article about various safety concerns specific for flow cytometry and cell sorting


First paper describing the use of fluorescent GloGerm particles for measuring aerosol containment during cell sorting

Discusses the option of fixing infectious sort samples for operator safety


Step-by-step protocol for assessment of aerosol containment using GloGerm particles in powder form


Focuses on the necessity for obtaining accurate information about the biohazard potential of samples submitted to shared flow cytometry facilities and provides a template for a biosafety questionnaire


Summary of the issues discussed at the CBER/FDA workshop held in Washington DC on April 20, 2001


First report of the use of the GloGerm method for measuring aerosol containment with an active air sampling device


Step-by-step protocol for measuring aerosol containment using the GloGerm method and a the AeroTech concentrator


Comprehensive discussion of various aspects of performing cell sorting experiments using unfixed cells and cells known to be potentially infectious including instrument decontamination and step-by-step protocols for assessment of aerosol containment using various methods


Validates the use of a specially designed safety cabinet to contain cell sorter-produced aerosols


Emphasizes the safety concerns associated with high-speed sorting and discusses the development of alternate future technologies with less biohazard potential
Biosafety-related Web Links

Laser Institute of America:  www.laserinstitute.org/

Occupational Safety and Health Administration:  www.osha.gov

National Committee for Clinical Laboratory Standards:  www.nccls.org

Center for Disease Control and Prevention, Ohasis (Office of Health and Safety Information System):  www.cdc.gov/od/ohs


American Biological Safety Association:  http://www.absa.org

American Industrial Hygiene Association  
http://www.aiha.org  

European BioSafety Association  
http://ebsa.be

World Health Organization  
http://www.who.int  
http://www.who.int/biologicals  
http://www.who.int/occupational_health/en/

Convention on Biological Diversity (Cartagena Protocol on Biosafety)  
www.biodiv.org/biosafety/default.aspx

Biosafety in Europe  

Bionomics International  
http://bioint.org

Comparative Review of Biosecurity-related Legislation  
http://cns.miis.edu/research/cbw/biosec/pdfs/biolaw.pdf

European Biological Resource Centre Network  
http://www.wfcc.info/new/EBRCN_Resource_Legislation_file_WP5_2.htm  

Institute of Safety in Technology and Research  
http://www.istr.bham.ac.uk
European Agency for Safety and Health at Work
http://uk.osha.eu.int

Institute of Occupational Safety and Health (IOSH)
http://www.iosh.co.uk/

Bloodborne Pathogen Safety Training Session
http://www.vcu.edu/oehs/chemical/training/LABORATORY-BIOSAFETY-BBP.html

University of Wisconsin-Milwaukee Biosafety Site
http://www.uwm.edu/Dept/EHSRM/BIO/

UCLA Flow Cytometry Core Facility, Biosafety
http://cyto.mednet.ucla.edu

Adult AIDS Clinical Trial Group (ACTG), Quality Control Issues and Practices in Flow Cytometric
HIV Immunophenotyping
http://aactg.s-3.com/iqa.htm

University of Edinburgh Safety Resources
http://www.safety.ed.ac.uk/resources/links.html

Publications from the National Committee for Clinical Laboratory Standards
(NCCLS) of interest to flow cytometry laboratories


Clinical Laboratory Waste Management, Approved Guideline. NCCLS Document GP5-A, 1993

Procedures for the Handling and transport of Diagnostic Specimens and Etiologic Agents –

Protection of Laboratory Workers from Instrument Biohazards and Infectious Disease