

US EPA ARCHIVE DOCUMENT

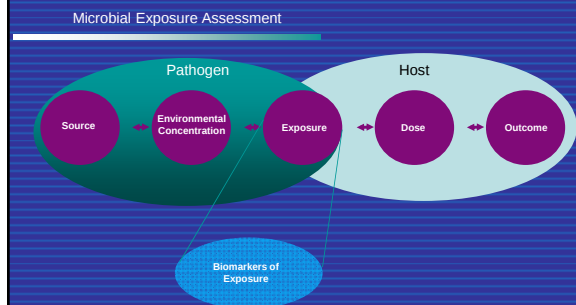
New Approaches to Microbial Exposure Assessment

Alfred P. Dufour

National Exposure Research Laboratory, Office of Research and Development, US Environmental Protection Agency

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Risk Assessment Paradigm



Biomarkers of microbial exposure

- Antibodies
- Cytokines
- Proteins
- Gases

Human specimens for biomarker assay

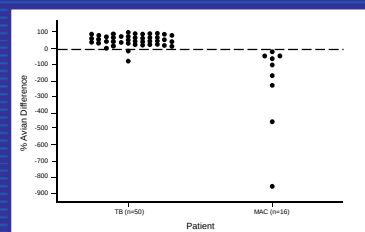
- Saliva (crevicular fluid)
- Urine
- Feces
- Blood/Serum

Uses of biomarkers of microbial exposure

- Determine the prevalence of exposure for large populations
- Determine demographic groups at risk
- Determine regional "hot spots"
- Determine etiological agents that cause illness
- Provide endpoints for epidemiological studies
- Starting point for exposure reconstruction

Discrimination between TB and MAC

(50 cases of TB and 10 of MAC lymphadenitis)



Stapledon et al 2002

Challenges associated with using biomarkers of microbial exposure

- Distinguishing previous from current exposures
- Multiple sources of pathogens
- Multiple means of transmitting pathogens