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Nota di contenuto	ENCYCLOPEDIA OF INFECTIOUS DISEASES; Contents; Contributors; Biographical; Introduction: Infectious Diseases, the Major Challenge of Twenty-First Century Medicine; 1. Pulmonary Tuberculosis and Mycobacterium Tuberculosis: Modern Molecular Epidemiology and Perspectives; 1.1. Introduction; 1.2. General Points on Mycobacterium Tuberculosis (MTB) and Pulmonary Tuberculosis (PTB); 1.2.1. Classification and Cellular Characteristics; 1.2.2. Transmission and Multiplication of MTB; 1.2.3. Clinical and Subclinical TB; 1.2.4. Diagnosis of MTB Species; 1.2.5. Treatment, Drug Resistance, and Control 1.3. Genetics of MTB, Molecular Tools, and Population Structure1.3.1. Genome and Genetic Diversity of MTB; 1.3.2. Genetic Tools for Molecular Epidemiology; 1.3.3. How Should the Most Appropriate Molecular Marker be Chosen?; 1.3.4. Population Structure of MTB and Epidemiological Consequences; 1.4. Use of Molecular Epidemiology for Understanding Tuberculosis Transmission and Pathogenesis; 1.4.1.

MTB Families and Worldwide Distribution; 1.4.2. MTB in Developing Versus Developed Countries; 1.4.3. Clinical and Epidemiological Relevance of Molecular Epidemiology at the Local Level  
1.4.4. Use of Genotyping to Study the Impact of HIV/AIDS and Drug Resistance on Pathogenesis and Transmission  
1.5. Urgent Needs for TB Control, Limitations, and New Issues for Molecular Epidemiology; 1.5.1. Urgent Needs for TB Control and Molecular Epidemiology; 1.5.2. Limitations of Modern Molecular Tools; 1.5.3. Promising New Technologies; 1.6. Conclusion and Perspectives; Acknowledgments; Abbreviations; Glossary; References; 2. Diseases that Threaten Livestock; 2.1. Introduction; 2.2. Animal Diseases Under Control; 2.2.1. General Considerations; 2.2.2. Description of the Diseases  
2.3. Diseases that Are an Economic Burden and Hamper International Trade in Animals and Animal Products  
2.3.1. General Considerations; 2.3.2. Description of the Diseases; 2.4. Animal Diseases that may Threaten Human Health; 2.4.1. Description of the Diseases; 2.5. Surveillance and Control of Transmissible Animal Diseases: Progress Expected from Modern Technologies; 2.6. Conclusion; References; 3. HIV/AIDS Infection in the World with a Special Focus on Africa; 3.1. Introduction; 3.2. Current State of the Epidemic; 3.2.1. Prevalences and Incidences in the World; 3.2.2. Mode of Transmission  
3.2.3. Impact of HIV Infection on Other Endemic Diseases  
3.2.4. Demographic, Social, and Economic Consequences; 3.3. Molecular Epidemiology; 3.3.1. Classification of HIV; 3.3.2. Distribution of HIV-1 in Africa; 3.3.3. Implications of Recombination; 3.4. Implication of HIV Variability on Pathogenesis, Treatment, Diagnosis, and Vaccine Development in Africa; 3.4.1. Impact of HIV Variability on Diagnosis; 3.4.2. Impact of HIV Variability and Antiretroviral Therapy; 3.4.3. Impact of HIV Variability on Transmissibility and Pathogenesis; 3.4.4. Impact of HIV Variability on Vaccine Development  
3.5. Access to Treatment

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## Sommario/riassunto

Discover how the application of novel multidisciplinary, integrative approaches and technologies are dramatically changing our understanding of the pathogenesis of infectious diseases and their treatments. Each article presents the state of the science, with a strong emphasis on new and emerging medical applications. The Encyclopedia of Infectious Diseases is organized into five parts. The first part examines current threats such as AIDS, malaria, SARS, and influenza. The second part addresses the evolution of pathogens and the relationship between human genetic diversity and the spre

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