

The basic layout , the main functions and instrumentation concept of micro Inspection Division laboratory,

### 1, Virology Laboratory

1. Functions: for the city to monitor the prevalence of HIV disease, dealing and reporting and special analysis, And to mainly research the virus epidemiology, molecular biology, virus culturing and inspecting, viral etiology, immunology and other aspects, for the city to carry out the Virus Diseases Prevention and Control Laboratory to provide scientific data, And to offer the techniques and support for the laboratory.

### 2. Functional group settings:

#### (1) virus culture laboratory

\* Function: Isolation and identification of viruses

\* With the detection capabilities: Isolation and identification of influenza virus, isolation and identification of polio virus , neutralization antibodies testing, polio candy titer and measles vaccine testing ,etc.

\* Divided in to two areas: A, intestines virus culture area

B, respiratory virus culture area (P2 Design)

\* Major equipment to be acquired:

Inverted microscope, fluorescence microscope, ultra-low temperature refrigerators, liquid nitrogen, 2 carbon dioxide incubator, 2 ordinary incubator, water bath, 2 biological safety cabinets, 2 low-temperature high-speed desktop centrifuge, ordinary desktop centrifuge, automatic high-pressure sterilizers, electron microscopy (direction), etc.

#### (2) Viral Immunology laboratory (P2 Design)

\* Function: virus immunological detection

\* With the detection capacity: ELISA test, blood clotting, blood suppression test, indirect immunology fluorescence test, agglutination test, neutralization test, complement fixation test, etc.

\* Major equipment to be acquired:

Fluorescence microscopy, ultra-low temperature refrigerators, general incubator, water bath, Class-two biological safety cabinets a platform, the Enzyme Reader, plate washer, low-temperature high-speed desktop centrifuge, ordinary desktop centrifuge, automatic high-pressure sterilizers, etc..

(3) HIV Laboratory

\* Function: AIDS screening, confirmation

\* With test items: ELISA test, Western blot test, agglutination test, gold standard (selenium standard) Rapid detection;

\* Direction: DNA analysis, antigen detection, HIV-related immune factor detection, viral load testing

\* Major equipment to be acquired:

Enzyme reader, plate washer, automatic Western blot apparatus, biological safety cabinets, refrigeration, general incubator, automatic high-pressure sterilizer, digital cameras, flow cytometry (reserve development) and so on.

(4) Biochemical Immunology Laboratory (Hepatitis E)

\* Function: for hepatitis virus and immunological analysis of biochemical analysis

\* Divided in to two areas: A, ELISA detection area

B, Biochemical analysis area

C, time-resolved immunoassay

\* Major equipment to be acquired:

Automatic biochemical analyzer, fully automated Enzyme reader, such as time-resolved detector.

2, Molecular Biology Laboratory (P2 Design)

1. Function: molecular biology research

2. Divided into four areas: A, reagent preparation area

B, sample handling area

C, amplified area

D, product analysis area

3. Direction: gene chip analysis, DNA sequencing

4. The major equipment to be acquired:

Common amplification, real-time PCR, gel products analysis system, molecular imaging systems, desktop& low temperature and high-speed centrifuge fan, 3 high-speed centrifuge, ordinary incubator, class-two biological safety cabinets, LAF , automatic high-pressure sterilizer, DNA sequencer (reserve development) and so on.

3, bacteriological laboratory

1. Function: Isolation and identification of bacteria, bacteria, health indicators, etc, to provide bacteriological testing for the disease treatment guideline and offer the technical guidance and support.

2. Functional group settings:

(1) pathogenic bacteria Room

\* Function: to pathogenic bacterial culture and isolation and identification

\* Divided into two areas: A, bacterial culture area

B, respiratory tract bacterial culture area (P2 Design)

\* Major equipment to be acquired:

Automated bacterial identification instrument, bacterial immunity analyzer, ultra-low temperature refrigerators, general microscopy, fluorescence microscopy, biochemical incubator group, anaerobic incubator, incubator mold, carbon dioxide incubators, class-2 biological safety cabinets, centrifugal fan, automatic high-pressure sterilizers, etc..

(2) health bacteria room:

\* Function: Related Products bacteriological detection, identification

\* areas: A, 1000-scale laboratories, 2 rooms

B, 100-scale laboratories, 1 room

\* Major equipment to be acquired:

Automatic Colony Counter, ordinary microscope, automated bacterial identification system (shared room with pathogenic bacteria), bacterial immunity analyzer (shared room with pathogenic bacteria), ordinary microscope, fluorescence microscope (shared room with pathogenic bacteria), chemical and biological incubator batch anaerobic incubator, mold incubator, ordinary incubator, automatic high-pressure sterilizers, etc..

4 other laboratory

1. Parasitic Diseases Laboratory

\* Function: stool examination, blood examination, parasite culture, immunological tests

\* Direction: food health inspection parasites, animal experiments

\* Equipment to be acquired: ordinary microscopy, fluorescence phase contrast microscope, Enzyme reader, washer and so on.

2. Toxicology laboratory

\* Function: acute toxicity test (through skin, through the digestive tract, respiratory tract), eye irritation test, skin irritation test, mucous membrane irritation test.

\* Direction: carcinogenic Induced deformity test, chronic toxicity test, toxicology test nutrition indicators

\* areas: A, animal room (by conventional animal house design)

B, experiment area

\* Equipment to be acquired: frozen section machine, microscope, electron-balance.

3. Resistance Laboratory



- \* Function: "Four Pests" resistance test
- \* areas: A, animal room (by conventional animal house design)  
B, experimental area
- \* Equipment to be acquired: microscope, electron days of equality, such as gas cabinet.
- 4. P3 laboratory (reserve development)
- \* Main function: highly infectious pathogens laboratory inspection
- 5, matching room and facilities for laboratory
- 1. Staff Office ,1 room
- 2. Chief office,3 rooms
- 3. Information, learning, meeting room,1 room
- 4. dressing room,1 room
- 5. Data collection Room,2 room
- 6. Disease Emergency Equipment Room ,1 room
- 7. Reagent storage, media preparation room ,1 room
- 8. Bacterium Group Instrument Room ,1room
- 9. Pure water chamber room,1room
- 10. Supply Room, 1 room