



## Royal Tropical Institute KIT Biomedical Research

### Diagnostic activities

#### Products

KIT Biomedical Research has many years of experience in developing rapid tests with business partners. The development of the test principle and the production of biomaterials, validations and evaluation usually take place in our laboratory. These tests are essential tools in developing countries to diagnose infectious diseases where other time-consuming and more elaborate tests are not available, due to logistic or financial constraints.

Assay formats that have been developed include dipstick, lateral flow, latex agglutination, direct agglutination and EIA. Quality, simplicity, robustness and speed are keywords in the development process.

Using nanotechnology, sensor technology and non-enzymatic nucleic acid amplification are now also focus points.

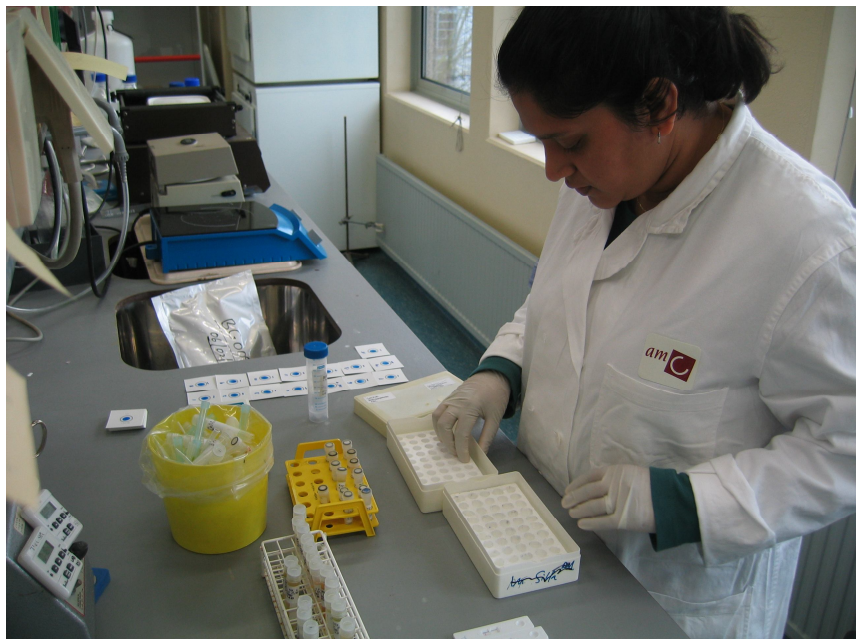
Present products are amongst others:

- LeptoTek Dri-Dot (CE-marked);
- Brucella IgG/IgM flow assay;
- DAT (Direct Agglutination Test) for visceral leishmaniasis;
- Typhoid Dri-Dot.

For more information on the various tests see the fact sheets 'Rapid diagnostics'.

KIT Biomedical Research also has a number of biomaterials which serve the diagnosis performed in other laboratories. These include antigen preparations, microorganisms and both mono- and polyclonal antibodies to a variety of organisms (including mycobacteria).

For leptospirosis products and services see the relevant fact sheet 'Leptospirosis services'.



### Contract research

KIT Biomedical Research can offer contract research for companies and others in the field of diagnostics, provided the activities are within the scope of our mission.

We can offer collaboration in the fields of:

1. Diagnostic development of EIAs, lateral flow, latex agglutination and dipstick assays. We have expertise and experience in all stages of the development process from proof of principle to the manufacturing of production lots.
2. Diagnostic development of (simple) nucleic acid-based assays.
3. Translating existing EIA-based tests into the simple formats of lateral flow and/or latex agglutination assays.
4. (Upscaling of) Production of biomaterials, such as (recombinant) proteins, polysaccharides, etc. and poly- and monoclonal antibodies.
5. Evaluation of diagnostic tests according international (WHO) accepted protocol.
6. Quality management of laboratories.
7. Transfer of knowledge in any of the above.

### Laboratory strengthening programmes

The diagnostic capacity in resource-poor settings often cannot meet the qualitative and quantitative needs of global health initiatives that focus on (infectious disease) therapy and control.

Where laboratory diagnostic facilities are marginal or non-existent, KIT Biomedical Research staff can provide advice and assistance, using a participatory approach, in setting up or improving diagnostic facilities ranging from basic laboratories to national reference centers. KIT Biomedical Research can contribute to strengthening the leadership and management capacity of national laboratory networks in resource-poor settings to ensure quality laboratory services and their constant availability through offering its comprehensive and complementary expertise and experience in the fields of disease control, health systems, laboratory diagnostic services, quality systems, and human resource development. We can do so in consultation with partners in low- and middle-income countries by the development of different techniques, tools and approaches suiting the needs and competency at each level of health care.

### Training

KIT Biomedical Research can provide both pre- and in-service training to build local capacity for diagnostic laboratory strengthening. Quality management is included in the expertise of the department. We also support the development of alternative ways of continued learning such as virtual learning communities. KIT Biomedical Research can give its course on "Quality System Management for Diagnostic Laboratories" on request and assist in accreditation up to ISO15189 level.

We welcome entering into discussion with those able to further our aim of building capacity for diagnostic services in low- and middle-income countries.

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