

TECHNOLOGIES AVAILABLE FOR LICENSING AT UNIVERSITY OF DELHI

Diagnostic Technologies:

Letters of Intent are invited from Industrial organizations /companies for licensing and/or up scaling of following patent protected lab level diagnostic technologies available at University of Delhi. The technology details are provided in the enclosed technology flyers:

Technology Titles:

1. NOVEL MOLECULAR BEACON BASED RT-PCR DIAGNOSTIC KIT FOR ACUTE MYELOID LEUKEMIA.
2. NOVEL AND SENSITIVE REAL TIME PCR KIT FOR DETECTION OF ACUTE MYELOID LEUKEMIA.
3. HIGHLY SENSITIVE, SPECIFIC AND COST EFFECTIVE BEACON BASED DIAGNOSTICS OF CHRONIC MYELOID LEUKEMIA.
4. INNOVATIVE AND HIGHLY SPECIFIC, SIMPLE AND SENSITIVE DIAGNOSTIC KIT OF TUBERCULOSIS.
5. INTERNATIONALLY COMPETITIVE RT-PCR DIAGNOSTIC KIT FOR DETECTION OF CHRONIC MYELOID LEUKEMIA.
6. NOVEL, RAPID AND HIGHLY SENSITIVE DIAGNOSTIC KIT FOR *TRICHOMONAS VAGINALIS*.

We offer:

- Know how licensing
- Probes and primers
- Intellectual Property
- Technical Support

Interested parties may send the letter of intent for the technology (one or more) they are interested in, along with the company details **on or before 10th March 2017**. For any query, please contact The Chair, Research Council, University of Delhi through email on the Email ID:

techtransferofficedu@gmail.com

Technology Available for Licensing

NOVEL MOLECULAR BEACON BASED RT-PCR DIAGNOSTIC KIT FOR ACUTE MYELOID LEUKEMIA

BACKGROUND

In 5-10% of patients with Acute Myeloid Leukemia, leukemic cells carry a translocation between chromosomes 21 and 8. This results in formation of the chimeric oncogene *AML1-ETO*, producing a fused protein *AML1-ETO*, which functions as a trans-repressor for AML target gene expression. Patients having this translocation have a relatively favorable prognosis and thus its detection helps the clinician to take better therapeutic decisions.

Classical cytogenetic methods including karyotyping and FISH for detection of translocation are laborious and time consuming, whereas real-time PCR method requires expensive setup. Some of these methods may not be routinely available in many parts of developing countries and therefore, it becomes imperative to develop a cost effective and highly sensitive method for its detection in AML patients.

TECHNOLOGY

Molecular beacons based Quantitative RT-PCR diagnostic method for detection of *AML1-ETO* translocation in AML patients.

❖ APPLICATIONS:

- ❖ Rapid, cost effective diagnosis of AML leukemia containing translocation t(8:21).
- ❖ Quantitative hence useful for disease management.

ADVANTAGES

- ✓ Low capital investment and low cost reagents.
- ✓ Highly specific and Sensitive diagnostic assay.
- ✓ Easy visualization of product.
- ✓ Eco friendly.
- ✓ Highly stable kit
- ✓ Rapid
- ✓ No cross contamination problem.

STATE OF DEVELOPMENT:

- ❖ Specific Primers and Novel Probes developed and assay standardized.
- ❖ Sensitivity and Specificity determined
- ❖ Stability of reagents tested.
- ❖ Performance tested using clinical samples against quantitative real time PCR.

IPR STATUS

- Indian Patent Pending

The University is seeking partners to license the technology for scale up and commercialization.

Send letter of Interest/Contact :

Contact: Chairperson, Research Council, University of Delhi, Delhi-110007, India

Email:

techtransferofficedu@gmail.com

Website: www.du.ac.in : www.ipr.dudic.in

www.acbrdu.edu

Technology Available for Licensing

NOVEL AND SENSITIVE REAL TIME PCR KIT FOR DETECTION OF ACUTE MYELOID LEUKEMIA

BACKGROUND

In 5-10% of patients with Acute Myeloid Leukemia, leukemic cells carry a translocation between chromosomes 21 and 8. This results in formation of the chimeric oncogene *AML1-ETO*, producing a fused protein *AML1-ETO*, which functions as a trans-repressor for AML target gene expression. Patients having this translocation have a relatively favorable prognosis and thus its detection helps the clinician to take better therapeutic decisions.

Classical cytogenetic methods including karyotyping and FISH for detection of translocation are laborious, less sensitive and time consuming, whereas detection of fusion protein by classical western blotting or use of advanced flow cytometric approach using immunobeads requires expensive setup. Some of these methods may not be routinely available in many parts of developing countries and therefore, it becomes imperative to develop an easy and highly sensitive method for its detection in AML patients.

TECHNOLOGY

A sensitive, specific and low cost Real Time PCR based quantitative assay for detection of AML1-ETO translocation in AML patients.

APPLICATION:

Diagnosis and disease management of Acute myeloid leukemia using Quantitative RT-PCR

ADVANTAGES

- ❖ Rapid results available same day.
- ❖ High sensitivity and specificity
- ❖ Quantitative diagnostic assay
- ❖ Aids in monitoring Minimal Residual Disease (MRD)
- ❖ Eco friendly and Cost effective

STATE OF DEVELOPMENT

- ✓ Primers and probes designed.
- ✓ Assay standardized.
- ✓ Sensitivity and specificity determined.
- ✓ Assay Validated using clinical samples.

Licensing:

The University is seeking partners to license the technology for scale up and commercialization.

IPR Status

Indian Patent Pending

Contact:

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TECHNOLOGY AVAILABLE FOR TRANSFER

A HIGHLY SENSITIVE, SPECIFIC AND COST-EFFECTIVE BEACON BASED DIAGNOSTICS OF CHRONIC MYELOID LEUKEMIA (CML)

Background

Classical method of detection involves cytogenetic analysis through karyotyping and FISH a time consuming, labor intensive and expensive procedure which need expert handling. This dependency on metaphases and invasive procedure was offset by present day real time PCR a relatively fast technique. Drawback of the current method is: needs to be imported hence is very expensive, time consuming, high capital investment requirement. Therefore once again it is not the method of choice in developing countries like India.

APPLICATION:

Quantitative diagnostics of bcr/abl transcript for the detection and treatment of CML patients.

STATE OF DEVELOPMENT

Beacon based –RT PCR has been developed. Assay has been evaluated using more than 200 CML samples against real time PCR .

TECHNOLOGY

A RT-PCR based, easy to visualize and quantitative assay for detection of BCR-ABL translocation in CML patients has been developed. The clinical evaluation established the assay's performance to be comparable to that of real time PCR. The assay is highly sensitive, specific, cost effective and convenient and requires low capital investment

➤ Advantages

- ❖ Highly sensitive and specific.
- ❖ Low capital investment (no expensive equipment is required)
- ❖ Inexpensive and Quick, results available same day.
- ❖ Easy to handle and easy to visualize the results.
- ❖ Eco friendly (No non-biodegradable chemical)
- ❖ Reagents have shelf life of >6 months at 4 C.

- IPR STATUS
- Indian Patent Pending

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Innovative, Highly Specific, Simple and Sensitive Diagnostic Kit for Tuberculosis

Technology available for transfer

ADVANTAGES

- ✓ **Low capital investment** (DNA amplification requires only water/dry bath)
- ✓ **Rapid** (results obtained within 1 hour)
- ✓ Can detect both pulmonary and extra pulmonary **tuberculosis**
- ✓ **Specific** (high specificity since multiple primes are used against target gene)
- ✓ **Sensitive** (equal to or higher than the available PCR based methods).
- ✓ **Easy visual detection of the product.**
- ✓ **Robust** (does not require expertise, no carry-over contamination problem)
- ✓ Amplification at **isothermal** conditions
- ✓ **Simple method.**

BACKGROUND

The major challenge in combating tuberculosis (TB) is the lack of an inexpensive, rapid and specific diagnostic test. Loop mediated isothermal amplification (LAMP) is a promising technique for the effective and reliable diagnosis of infectious diseases in resource limited settings.

TECHNOLOGY

A robust, sensitive, rapid and simple diagnostic method developed for diagnosis of tuberculosis. Detection of TB can be achieved in less than an hour without requirement of expensive & sophisticated instruments.

APPLICATIONS

Easy, rapid, & specific diagnosis of pulmonary and extra pulmonary tuberculosis

PATENT STATUS

Indian Patent Pending

STATE OF DEVELOPMENT

- Designed specific oligonucleotides primer set.
- Developed Sensitive and specific method for detection of *M. tuberculosis*
- Assay for detection standardized.
- Validated with large number of clinical specimens against commercial methods

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TECHNOLOGY AVAILABLE FOR TRANSFER

INTERNATIONALLY COMPETITIVE RT-PCR DIAGNOSTIC KIT FOR CHRONIC MYELOID LEUKEMIA DETECTION

BACKGROUND:

Classical method of detection involves cytogenetic analysis through karyotyping and FISH a time consuming, labor intensive and expensive procedure which need expert handling. This dependency on metaphases and invasive procedure was offset by present day real time PCR a relatively fast technique. Drawback of the currently available methods are expensive and need to be imported. Hence these are not the method of choice for developing countries like India. Current method alleviate this drawback as indigenously available equipment and reagents are used in the developed diagnostic kit.

Technology

Quantitative Real time PCR diagnostics for the detection of Chronic Myeloid Leukemia (CML), a common type of blood cancer.

Applications

✓ Highly Sensitive, Specific, cost-effective and Eco friendly Real time PCR based quantitative diagnosis and management of CML patients.

Competitive Advantages

- ✓ Highly specific and sensitive.
- ✓ Quantitative diagnostic assay.
- ✓ Can detect residual disease and chimeric transcript in patients under remission for better drug regime.
- ✓ Validated using large number of clinical samples
- ✓ Eco friendly.
- ✓ Rapid and cost effective.

State of Development

- ✓ Primers and probes designed.
- ✓ Assay standardized.
- ✓ Sensitivity and specificity determined.
- ✓ Assay Validated using clinical samples.

Send letter of interest & Contact

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IPR Status

- Indian Patent Pending



TECHNOLOGY AVAILABLE FOR TRANSFER

NOVEL, RAPID, AND HIGHLY SENSITIVE DIAGNOSTIC KIT FOR *TRICHOMONAS* *VAGINALIS* DETECTION.

BACKGROUND:

The traditional method of detection is culture and microscopic. Imported kits are highly expensive. This contributes to the persistence and transmission of *trichomoniasis*, a sexually transmitted disease. Unavailability of a reliable and cost effective test for detection of the infection is a growing concern especially in developing countries. The lack of accurate and specific diagnosis leads to predefined antimicrobial prescriptions which is not only the cause of over treatment, but contributes to acquiring antibiotic resistance. Therefore, correct and early diagnosis of these diseases is of critical importance for timely medical intervention.

Technology

A Novel Molecular Beacon-mediated PCR Kit For Diagnosis of *Trichomonas vaginalis*, a causative agent of sexually transmitted disease, trichomoniasis.

Applications

- ✓ Rapid detection of sexually transmitted disease caused by *Trichomonas vaginalis* using highly specific and sensitive beacon based-PCR method.
- ✓ Can be used for screening as well in fields.

Competitive Advantages

- ✓ Low capital investment.
- ✓ Highly specific, Sensitive and stable diagnostic assay.
- ✓ Easy visualization of product.
- ✓ Eco friendly.
- ✓ Highly stable kit (shelf life of >6 months at 4 °C).
- ✓ No cross contamination problem.

State of Development

- ✓ Method well standardized.
- ✓ Primers and probes developed.
- ✓ Validated using large number of clinical samples.
- ✓ Sensitivity and Specificity determined in house.
- ✓ Stability of diagnostic assay tested.

- **IPR Status**
Indian Patent Pending

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Licensing Opportunity

The technology is available for license and ACBR, University of Delhi, is actively seeking partners for the licensing and commercial development of the technology.