Expression of Interest for Technologies Developed

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ABOUT GUJARAT BIOTECHNOLOGY RESEARCH CENTRE

Gujarat Biotechnology Research Centre is established as an autonomous society under Department of Science and Technology, Government of Gujarat for tackling societal problems of state priority through cutting-edge Biotechnological intervention. The organization is well equipped with advanced research infrastructural facilities related to genomics, bioinformatics, Biobanking, and bioprospecting. The focus of GBRC is not only to undertake conduct cutting-edge research in the frontier areas of biotechnology but also conducting translational research leading to the development product/ prototype/ process development with application in healthcare, agriculture, environment, marine etc. GBRC is also evolving as a state-of-art shared laboratory facility by extending its infrastructure to outside organization/Institutions/Industries/Students for their research purposes.

ABOUT TECHNOLOGY

GBRC has developed few in-house technologies which have been approved for licensing. These technologies are expected to be better and cost effective compared to those available in market. Following technologies available for licensing:

1. Technology for detection of Omicron variant of SARS-CoV-2
2. Amplicon panel for diagnosis of Muscular Dystrophies (MDs)
3. Amplicon panel for diagnosis of Hereditary Breast and Ovarian Cancer (HBOC)
4. Kit for sex determination in date palm
5. Technology for recombinant serratiopeptidase production
6. Dengue serotype diagnostic kit
7. Technology for recombinant streptokinase production
8. Detection of adulteration in herbal formulations
9. RT-PCR based Bt-Gene quantification assay & kit
10. Liquid Bio-fertilizer and Sustainable release Bio-fertilizer Agriculture

Detailed explanation about the technologies are in the following pages.

1. Technology for detection of Omicron variant of SARS-CoV-2

Background

Omicron, B.1.1.529, (BA.1; according the new classification), the new emerging variant of concern (VOC) of SARS-CoV-2 has re-alerted the world again to the COVID-19 pandemic situation. Since the first case in Wuhan, China, scientists have discovered over 1900 SARS-CoV- 2 lineages. Many of these lineages, however, have overpowered pandemic situations, such as the second wave in India caused by the Delta variant (B.1.167.2) of SARS-CoV-2. This hyper mutated variant contains 15 mutations in RBD (receptor binding domain), leading to reduced binding of neutralizing antibodies but not complete escape from the system. A second wave of the SARS-CoV-2 pandemic was sparked by the emergence of a delta variant with substantial mutations in the NTD (N-terminal domain), resulting in a prominent case of immunological escape. Omicron with concerning mutations in NTD, along with RBD might be more infectious and may lead to increased transmission as well as re-infection of SARS-CoV-2. For better management of the pandemic situation, quick and reliable method to track the major Omicron variants from the positive COVID-19 cases is very essential.

Technology

We have developed a set of primers targeting the key mutations including insertions and deletions in spike protein encoding gene of this variant, allowing us to distinguish Omicron form the other SARS-CoV-2 lineages and simultaneously BA.2 and BA.1 differentiating.

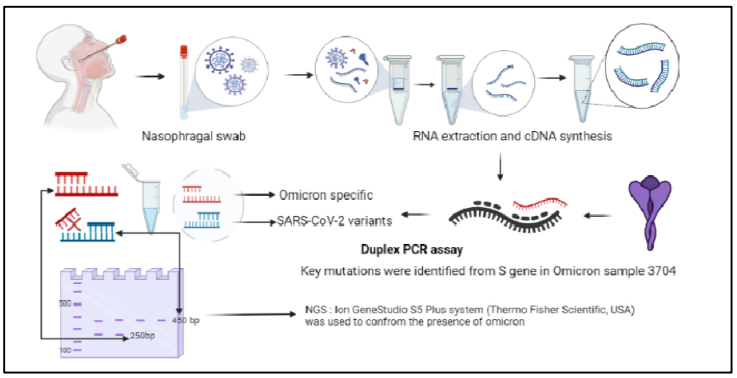
Potential Applications

The rapid and cost-effective PCR based test can help in early identification of Omicron cases from community and therefore in better management in fight against COVID-19.

Technology Status

Technology is ready and to use and validated in clinical samples along with concordance in genome sequencing.

Silent future: PCR based method for detection of BA. 1 and BA. 2 Omicron variant simultaneously



2. Amplicon panel for diagnosis of Muscular Dystrophies (MDs)

Background

Muscular dystrophy is a genetically heterogeneous group of neuromuscular diseases that result in degradation of skeletal muscles, progressive muscle weakness, loss of ambulation, cardiac attack, and respiratory failure. More than 30 different types of MDs are known.

Duchenne Muscular Dystrophy (DMD) (OMIM#310200) is the most common, rapidly progressive, and severe neuromuscular disease. About 40 different genes have been reported for the occurrence and/or progression of MDs. Multiplex Ligation Dependent Probe Amplification (MLPA) or array-CGH (aCGH) diagnostics tests are being used to detect large CNVs (Deletions/Duplications) in MDs. The results of these diagnostic tests further require targeted sequencing to detect SNVs in the DMD/BMD cases and performing aCGH in all referred cases would be time consuming and expensive.

Technology

Amplicon panel-based diagnosis was carried out for 102 (DMD/BMD) cases and the results were further screened using multiplex ligation-dependent probe amplification (MLPA). Whilst in the case of LGMD (N=19) and UMD (N=2), only NGS panel-based analysis was carried out. We identified the large deletions in 74.50% (76/102) of the cases screened with query DMD or BMD. Further, the large deletion in CAPN3 gene (N=3) and known SNV mutations (N=4) were identified in LGMD patients. Together, the total diagnosis rate for this amplicon panel was 70.73% (87/123) which demonstrated the utility of panel-based diagnosis for high throughput, affordable, and time-saving diagnostic strategy.

Silent Future: This is comprehensive panel of 28 genes which can detect 2 different type of muscular dystrophy for CNV and SNP detection

Potential Applications

The analysis of CNV in the DMD gene concludes that our custom gene panel is superior to the MLPA method. NGS-based diagnosis is not only time-saving but also cost-effective method when compared with traditional testing strategies.

Technology Status

Technology is to use ready and tested in proband and carrier.

3. Amplicon panel for diagnosis of Hereditary Breast and Ovarian Cancer (HBOC)

Diagnosis of Hereditary breast and ovarian cancer (HBOC) by customized multi-gene panel

Background

Breast and ovarian cancer are the most prevalent cancer and leading cause of death in Indian women. The incidence of breast cancer cases in India in 2018 was estimated to be 162,468, which is 27.6% of all cancer cases in females. Whereas, for ovarian cancers, it was estimated to be 36,170, which is 6.2% of all cancer cases in females. Gujarat ranks first in deaths due to breast cancer and seventh in deaths due to ovarian cancer among other states of India. Moreover, the ratio of number of deaths to new cases in case of breast cancer is increased to 56.30% (87090/ 162648) in India which is much higher as compared to F.6% (131,347/458,718) in Europe and 19% (48,850/256,222) in the US. Hereditary breast and ovarian cancer (HBOC) is an inherited disorder in which the risk of breast and ovarian cancers is higher than normal BOC. About 5–10% of breast cancers and 10–15% of ovarian cancers can be attributed to HBOC. HBOC is characterized by bilateral cancer with a family history of breast or ovarian cancer in relatives. BRCA1 and BRCA2 (BRCA1/2) genes are maximally associated with predisposition to HBOC; however, in addition to the BRCA1/2 genes, the National Comprehensive Cancer Network (NCCN) guidelines have been expanded to incorporate non-BRCA genes into gene panels for increased medical management

Technology

We developed a customized multi-gene panel for the genetic screening of hereditary breast and ovarian cancer. we used 14 genes panel, in accordance with 2014 NCCN guidelines and other literature, for determining the contribution of BRCA and non-BRCA genes in HBOC in the Indian population. We were able to detect 42 pathogenic mutations in [40/144] cases. Majority of pathogenic mutations (30/41) were detected in BRCA1 gene, while (7/41) pathogenic mutations were detected in BRCA2 gene, whereas, (2/41) pathogenic mutations were detected in TP53 gene and BRIP1, PALB2, and ATM genes respectively. So, BRCA genes contributed 88.09% of pathogenic mutations, whereas non-BRCA genes contributed 11.91% of pathogenic mutations.

Potential Applications

Early detection of cancers can be done by genetic screening using customized multi-gene panels. In Indian population, apart from the common BRCA genes, there are other genes that are also responsible for the HBOC. High frequency mutations detected in this study and variants of uncertain significance predicted to be damaging by in silico pathogenicity prediction tools can be potential biomarkers of hereditary breast and ovarian cancer in Indian HBOC patients.

Technology Status

Technology is ready to use and tested in multiple human clinical samples.

Silent Future: This is comprehensive panel of 14 genes which can detect Hereditary Breast and Ovarian Cancer (HBOC).

4. Kit for sex determination in date palm

PCR based methodology for gender identification in date palm (Phoenix dactylifera L.) of Gujarat, India

Background

The Date palm (*Phoenix dactylifera* L.) is one of the chief flowering plants included in the family of Arecaceae. In India, the area for date palm cultivation is around 18286 ha with 171522 MT production. In India, date palm is cultivated among the major parts Kutch region of Gujarat and few regions of Rajasthan. In date palm is dioecious plant in which inflorescence has male and female flowers on different plant. Traditionally, Date palm plants are produced from seed, and because of dioecious nature, seed produced plants contain approximately the same number of males and females plants. Additionally, only female plants produced fruits, and few male plants were needed only for pollination and fertilization with female ovules. Hence, the selection of female plants is the most crucial procedure for the economic cultivation of date palms. The sex of seedlings can be find out only in the flowering stage and it produces mostly at the age of 4-8 years of the plant. So, the initial gender determination of date palm is very important for farmers for increasing profits.

Technology

GBRC has developed DNA based molecular technique to detect sex of the plant at very early age. The technique very robust and based on simple PCR test. PCR based sex determination of date palm with Glycerol-3 phosphate acetyl transferase (GPAT3) male specific primer and LOX5.1 as positive control. GPAT3 plays important role in male fertility. According to results GPAT3 amplification only occur in male date palm samples, not in female. So that, if result of PCR

amplification produced two bands than male and if one band than it is female.

Potential Applications and Benefits:

- The sex determination of seedlings at early stage could help to improve breeding efforts by generating experimental gender specific genetic pools that will promote date palm genetic improvement.
- It also helps to farmers for removing unwanted extra male plants at seedling stage and by which it can increase production of date palm.

Silent Future: PCR based method which can detect sex of date palm.

Technology Status

Technology is ready and already tested for more than 300 date palm leaf samples collected from different areas of Gujarat, India and it can successfully distinguish male and female sex of date palm.

5. Technology for recombinant Serratiopeptidase production

Production of Serratiopeptidase by engineered Escherichia coli strain for therapeutic application

Background

Serratiopeptidase is one of the important proteases which belong to the serine protease family. It is an extracellular zinc-containing metalloprotease that is produced by Serratia marcescens having molecular weight of about 53kD. It has shown therapeutic (anti-inflammatory, anti-fibrinolytic and analgesic) as well as industrial applications (detergents, food processing, leather, paper and brewing etc.). The evolution of *Serratia marcescens* as an opportunistic pathogen associated with various infections has led researchers to think and develop an alternate strategy for its industrial production.

Serratiopeptidase is also taken as a supplement to augment the overall health of the cardiovascular system. It has also shown to reduce the cancer metastasis by thinning its extracellular matrix as well as to solubilize non-living tissues such as mucous, plaques and blood clots. It has the potential to cure and treat several disorders such as atherosclerosis, arthritis, bronchitis, carpal tunnel syndrome, fibrocystic breast disease, Crohn's disease, leg ulcers, traumatic swelling, fibromyalgia, breast engorgement, migraine, Alzheimer's disease, sinusitis, hepatitis, lung disorders, arthritis, diabetes, carotid artery blockage, thrombosis, uterine fibroids.

Currently the industrial production of serratiopeptidase makes use of natural S. marcescens strain. However, many challenges and issues have arisen to use this strain because of pathogenic nature, lack of genetic tools, unclear mechanism of the utilization of cheaper carbon and nitrogen sources, industrial -scale fermentation and process. The bacteria is also reported to cause pneumonia, septicemia, and as well is associated with cystic fibrosis. Therefore, a pressing need has arisen to find an alternative approach for the production of active and efficient serratiopeptidase

Technology

GBRC make successful cloning, expression and purification of active serratiopeptidase, using Escherichia coli BL21 [DE3] and pET SUMO vector. Further it also optimize synthetic media and culture conditions for enhanced serratiopeptidase production. Initial optimization of physical parameters was done followed by a screening of different carbon and nitrogen sources. The significant media components for serratiopeptidase production as shown by factorial screening experiment were subjected to Response Surface Methodology (RSM) based optimization.

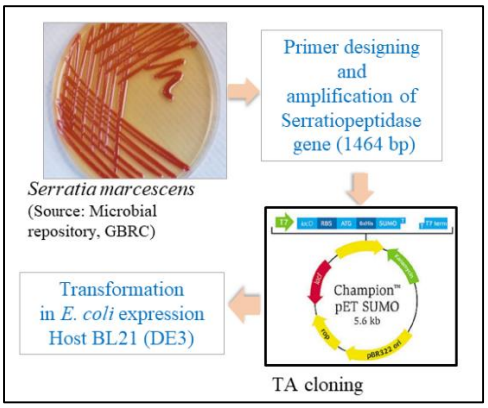
Silent future: In Bioreactor study, final yield of 2.5 ± 0.764 g L-1 of protein was obtained having 8382±291 U mg-1 of specific

Potential Applications and Benefits:

The success of the application of a statistical model for designing an optimized media for enhanced serratiopeptidase production also suggests a new insight for the scale up of serratiopeptidase towards industrial applications.

Technology Status

Technology is ready and the optimized media yielded 2.5 ± 0.764 g L-1 of protein was obtained having 8382±291 U mg-1 of specific caseinolytic activity.



6. Dengue serotype diagnostic kit

A cost effective PCR based diagnostic kit for detection of Dengue serotypes caused by *A. aegypti* with high sensitivity and specificity

Background

Dengue virus (DENV) is a small single-stranded RNA virus comprising mainly four distinct serotypes (DEN-1 to -4), that belong to the genus Flavivirus and are transmitted by Aedes sp. Mosquitoes. An estimated 50 million dengue infections occur annually and approximately 2.5 billion people live in dengue endemic After an incubation period of 4-10 days, infection by any of the four virus serotypes can produce a wide spectrum of clinical manifestations spanning asymptomatic infection, dengue fever (DH) and severe dengue, a category that includes entities previously classified as dengue haemorrhagic fever (DHF) and dengue shock syndrome (DSS). Given the geographic expansion of DENV1-4, rapid and accurate serotyping of dengue is crucial for dengue diagnosis and epidemiologic surveillance, treatment of patients, control of dengue outbreaks and transmission-blocking strategies targeting the vector, as well as for development of vaccines and antivirals. Thus, this single tube multiplex Real Time RT-PCR assay can be used as a method for differential diagnosis of a specific DENV serotype in viremia dengue patients during the early phase of the infection. The technology is designed for the diagnosis and technology is designed for the diagnosis and serotyping of the Dengue virus in clinical samples with higher sensitivity and specificity.

Technology

Gujarat Biotechnology Research Centre has developed one step multiplex Real-time PCR based diagnostic kit for dengue serotyping using all four serotypes (DENV1-4) specific primers & probes. The developed assay has high sensitivity and specificity. The diagnostic kit is expected to be cost effective compared to presently available real-time RT-PCR based assays.

Potential Applications

Diagnosis and discrimination of dengue serotypes transmitted by A. aegypti.

Value Proposition

- Highly specific and sensitive
- Quick and one step assay (Viral RNA as a sample)
- Ability to differentiate all four dengue serotypes
- Cost effective compared to existing Real-time PCR based assays

Technology Status

Kit has been tested in human clinical samples

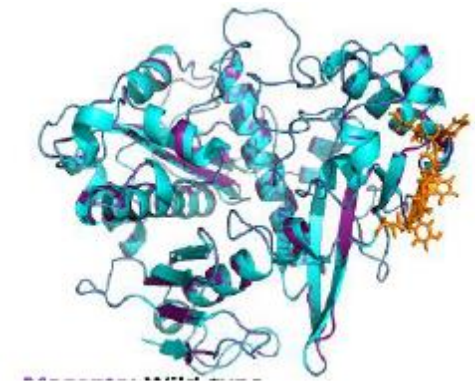
Silent future: PCR based diagnostic kit for detection of Dengue serotypes.

7. Technology for recombinant streptokinase production

Higher production of Streptokinase in *Streptococcus equisimilis* by CRISPR-Cas9 Mediated Knockout of SagD gene

Background

Streptokinase is a thrombolytic enzyme with a molecular weight of 47 kDa that is spontaneously generated by the alpha hemolytic group of Streptococcus species. Streptokinase forms a 1:1 streptokinase:plasminogen complex, which is utilized in healthcare to break up blood clots (due to myocardial infractions) and save lives. Streptokinase is used in the treatment of myocardial infections, arteriovenous cannula occlusion, embolism, and deep vein thrombosis. It is worth USD 40 million on the open market. Streptokinase production in other host factors, such as Escherichia coli, has a problem with product toxicity or other factors, such as the absence of short regulatory RNAs in the expression host for the stability of streptokinase mRNA transcript. As a result, there is an urgent need to create natural producers of streptokinase.



Silent future: Overproduction of Streptokinase by using CRISPR-Cas9 to knockout the SagD gene from *Streptococcus equisimilis*.

Technology

We used CRISPR-Cas9 to successfully knockout the SagD gene from *Streptococcus equisimilis* and observed a 13.58-fold increased expression of streptokinase at the transcript level and 1.48-fold higher expression at the protein level in the mutant strain compared to wild type.

Potential Applications

Our CRISPR-Cas9-based approach can be used in other microorganisms for genome editing for other industrially important therapeutic production.

Technology Status

Technology is ready and already tested

8. Detection of adulteration in herbal formulations

Development of assay kit for detection of botanical adulterants in highly traded herbal products through DNA tags and barcoding

Background

Botanical adulteration is one of the most prevalent issues in herbal pharmacovigilance due to high demand and commerce. The key research gap is the limitation of analytical methods to authenticate plant material, which is mainly low resolution power at species level due to environmental influence, processing and storage conditions, and cryptic taxa morphology and chemical constitution. To combat this, Chinese and British pharmacopoeia are advocating DNA-based molecular authentication for herbal products, as DNA is a more stable and readily available moiety. The Ayurveda pharmacopoeia of India (API) has microscopic, macroscopic, and chemical-based analytical methods to authenticate medicinal plants and herbal formulations. We need to develop and promote DNA-based authentication methods in pharmacovigilance to meet accurate and high worldwide standards.

Technology

To authenticate herbal products, we used two methods: species-specific primers and metabarcoding. For hebal formulations such as Tulsi, Brahmi, Mari, Harde, Baheda, Amala, Arjuna, Ashwgandha, Kariyatu, and Gokshru, traditional PCR methods (simplex and multiplex) have been developed. We designed in house rbcL and ITS2 minibarcodes for metabarcoding herbal formulations and validated them with different control pools and formulations such as Triphala, Trikatu, Hingvashatk, Rasayana, Sitopladi, Gokshru, and Brahmi.

Potential Applications

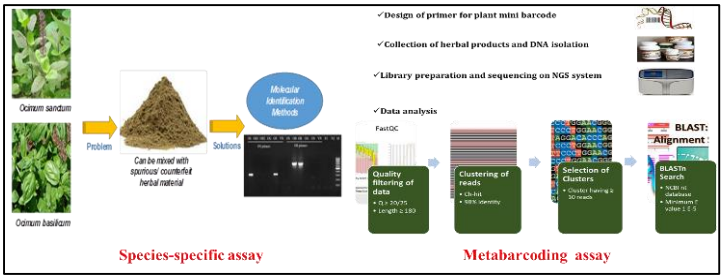
The rapid and cost-effective PCR-based test and metabarcoding approach developed in this study could be used to detect adulteration of herbal formulations.

Technology Status

Technology is ready to use and have been validated with standard and market herbal formulations.

Silent future:

1. Matabarcoding for determination of adulteration from top 13 highly traded herbal formulations.
2. PCR based detection method for Tulsi, Brahmi, Mari, Harde, Baheda, Amala, Arjuna, Ashwgandha, Kariyatu, and Gokshru from herbal formulations



9. RT-PCR based *Bt*-Gene quantification assay & Kit

With increasing number and complexity of GM events (single as well as stacked), testing for every GM event has become labour-intensive and costly. A GM event with single trait can be tested using a simple method, whereas identification and quantification of multiple or stacked traits or GM events require use of combination of high- throughput technologies. PCR, involving amplification of transgenic elements, is a widely employed method for GM detection. PCR-based GM detection methods are categorized on the basis of the level of specificity

Technology

Gujarat Biotechnology Research Centre has developed a RT-PCR based diagnostic assay for Bt- gene expression detection using specific primers. The primers used has high sensitivity and specificity. The diagnostic assay is expected to be cost effective compared to presently available presence absence based quantification assays.

Potential Applications

Detection of Bt-gene expression using RT-PCR for copy number and field level expression studies, zygosity testing for breeding companies, Real- time PCR/qPCR assays have become the tool of choice for the rapid and sensitive determination and quantitation of cry gene copy number. Real- Time PCR allows for direct measurement of the amount of the BT gene. Determination of percent GMO food content important for import / export regulations.

Value Proposition

- Determination of percent GMO food content important for import / export regulations.
- Highly specific and sensitive
- Ability to differentiate the GM cotton in seed level
- Cost effective and fast in comparison to existing end point techniques.

Technology Status

Assay has been tested in multiple Bt-cotton accessions and validated

Silent future: Detection of Bt-gene expression using RT-PCR for copy number and field level expression studies.

10 Liquid Bio-fertilizer and Sustainable release Bio-fertilizer

Background

Bio-fertilizers are artificially multiplied cultures of certain soil organisms that can improve soilfertility and crop productivity. Bio-fertilizers can be categorized into three major classes:

- Nitrogen-Fixation
- Phosphorus-Solubilizing
- Potash -Solubiliser

Bio-fertilizer are used for enhancing the productivity of the soil. They fix atmospheric nitrogen and solubilize phosphorus. Also they stimulate plant growth through synthesis of plant growth promoting substances.

Liquid Bio-fertilizers have a distinct advantage in terms of cost saving on chemical fertilizers in addition to yield advantage. Chemical fertilizers otherwise may have negative effects on soil as well as human health, change the soil chemistry and these soils no longer support plant growth in the long run.

A slow-release fertilizer releases nutrients to plants slowly over some time. Slow-release fertilizers are usually dry blends or granular formulas, they are easy to spread and are suitable for covering broad areas.

Technology

Gujarat Biotechnology Research Centre has developed liquid bio-fertilizers from strains of Bank-A-Bug repository and screened them for Nitrogen-Fixation, Phosphorus-Solubilizing, Potash –Solubilising properties.

Gujarat Biotechnology Research Centre has developed Bead trapped with bacterial culture as Sustained release fertilizer by screening of different Strains of Nitrogen fixer for its Nitrogen fixing ability

Potential Applications

There are three ways of using Liquid Bio-fertilizers

- Seed treatment
- Root dipping
- Soil application

Benefits

- Eco Friendly
- Effective and Efficient used in organic farming
- Shelf life minimum 1 year
- Easy use and transport
- Suitable for drip irrigation
- Suitable for Green house technology

Technology Status

Technology is ready and can be packed in different volumes and combinations as per requirement.

Silent future:

1. Nitrogen-Fixation, Phosphorus-Solubilizing, Potash –Solubilizing properties
2. Gujarat Biotechnology Research Centre has developed Bead trapped with bacterial culture as Sustained release fertilizer by screening of different Strains of Nitrogen fixer for its Nitrogen fixing ability

11. Probiotics to Cure Endometritis for Bovine

Cure Bovine Endometritis with Key Probiotics

Background

Uterine diseases cause infertility and repeat breeding conditions in bovines (cattle and buffaloes in Indian scenario) leading to decreased reproductive efficiency followed by effect on production and increased odds of early culling of animals from herd. This phenomenon ultimately ends up with astonishing economic losses to the dairy industries. During transition period it is common that cattle and buffalo have nutritional requirements that exceed their dietary intake potential. This leads to a state of negative energy balance during which, body tissue reserves mobilize to provide energy. The Calving process, on the other hand, allows environmental and opportunistic microorganisms to move, transit, remain, and invade the reproductive system. The traditional broad spectrum antibiotic therapy has limited success considering non-specific polymicrobial infection during the postpartum period and also develops antimicrobial resistance. This phenomenon made researcher to think on alternative approaches. Of late, in human use of LAB gave promising results. However, in bovines no such data is available on the role of LAB in vaginal microbiota as well its effect on animal health. Here in this work we have isolated various probiotics cultures from healthy uterus of buffalo and cow and screened them for their potential probiotic activities. From these isolates after detailed In-vivo and In-vitro testing, potential consortia had been formulated and tested in the field trial.

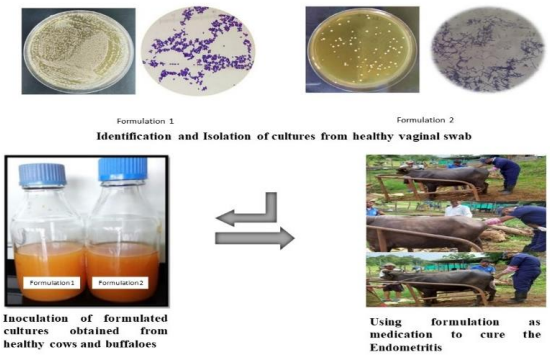
Technology

We have developed a probiotic formulation, which were originally isolated from vaginal microflora of healthy buffalo and cow. Their probiotics characteristics were studied phenotypically and genotypically. Applications of these probiotic consortia was done on animals with endometritis.

Estrous induction was found in formulation one and two at rates of 44% and 51% respectively and both the formulations showed a pregnancy rate of 60% and 68% respectively.

Potential Applications

New approach to treat endometritis in dairy animals. Probiotic bacteria produce antimicrobial peptides and organic acids that has potential to inhibit pathogens. New probiotic formulation has as probiotics can be use to prevent and/or treat bovine endometritis. There is growing concern about the potential impact of extensive antibiotics used in livestock, which is resulting in the spread of AMR (Anti-Microbial Resistant) strains. Infections caused by multi-drug resistant strains can be combated by the use of probiotic formulation.



MODALITIES OF TECHNOLOGY TRANSFER

Modalities of technology transfer will be discuss on case to case basis.

HO CAN APPLY?

Essential Requirements

- ✓ The organization must be a reputed Firm/Company/SME/Start-up/R&D company, incorporated in India with A standing of at least 2 years.
- ✓ The turnover is to be supported by financial statements of accounts/ Annual reports duly certified by a Chartered accountant/ Balance sheets of last 3 years / Income tax returns for the last 3 years period / Company PAN number.
- ✓ Company profile, giving details of current activities and management personnel structure including evidence of incorporation.
- ✓ Details of absorption of technology for a product/ know-how that has been taken up on production scale in the past may also be given.
- ✓ Successful bidder will have manufacturing license for life time but will have 2 years of exclusivity. After this period GBRC will carry out the auction process again and give the license to other parties as well.

GENERAL TERMS AND CONDITIONS

i. An expert committee will scrutinize the applications for follow-up action.

ii. The applicants may be called for a presentation regarding their strengths and business proposals

iii. Applicants will have to sign NDA with GBRC before entering into detailed discussion about technologies.

iv. All incidental expenditure incurred in preparation/ submission or presentation of the EoI shall be borne by the participating agency.

v. Participation in this EoI does not guarantee any association with GBRC unless notified by GBRC in writing.

vi. GBRC reserves the right of rejecting any EoI without assigning reasons.

vii. Last date for submission of EoI is given in the advertisement. Any offer received after due date and time will not be accepted.

viii. A Committee of experts constituted by GBRC will assess capabilities and strengths of the industry before finalizing the technology partners.

ix. The industry willing to take technology for commercial exploitation will be required to enter into a ToT agreement with GBRC as per the terms and conditions approved by the Executive Committee of GBRC in the prescribed format.

x. When the design of the new technology is patented, the patent rights shall rest with GBRC.

xi. All disputes in context to the same are subject to Gandhinagar Jurisdiction Only.

HOW TO APPLY?

Interested applicants may send Expression of Interest (EoI) with their details by filling the questionnaire as per **Annexure** along with supporting documents in the completely sealed envelope on the address given below **on or before 25/11/2022:**

Director GBRC
Gujarat biotechnology research centre
(Department of Science and Technology, GoG)
M.S. Building, 6TH Floor,Sector - 11,
Gandhinagar-382011, Gujarat.

CONTACT PERSON FOR ENQURIES

Dr Madhvi Joshi, Scientist D and Joint Director, GBRC
Email: jd1-gbrc@gujarat.gov.in
Phone: 9978441233

Annexure (Template for the EOI for Transfer of Technology)

Sr. No.	Particulars
1.	EOI Notice (Advertisement No.):
2.	Name of technology/technologies for which EoI is applied with reasons of choosingthe technology:
3.	Details of the Contact Person:
	(i) Name:
	(ii) Address:
	(iii) Telephone:
	(iv) Fax:
	(v) E-mail:
	(vi) Website:
4.	Year of establishment:
5.	(i) Type of Organization: Public Sector/ Limited/Private Limited/ Partnership/ Proprietary/ Society/ Anyother.

	(ii)	Whether 'Foreign Equity Participation (Please give name of foreign equity participant and percentage thereof).
	(iii)	Names of Directors of the Board/ Proprietors.
	(iv)	Name and address of NRI(s), if any
6.	Category of the firm: Large/Medium/Small scale unit	
7.	Nature of Business: Company/ Start-up/ SME etc.	
8.	Address of the registered office:	