# Study for the Application of Molecular Biology Technology in the Environmental Microbiology Researches

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**Keywords:** Molecular biology technology, Environmental microbiology research, Application analysis.

**Abstract.** In recent years the molecular biology technology had achieved some development in national related areas; the environmental microbiology research offered some support to the molecular biology technologies. Since the environmental microbiology researchers achieved better improvement in prevention and treatment of environmental pollution through the wide application of nucleic acid probe monitoring technique associated with technologies like gene recombination and chip technology. Constant optimized environmental solutions have to be made for better execution of environmental conservation work. The related researchers have to emphasis on the effective application of molecular biology technology in researchers, to achieve better usages in environmental microbiology research and lay solid foundation for national development.

## Introduction

The related researcher must familiar with all the techniques in molecular biology technology to identify problems during application process and establish refined solution. The related researchers need to conduct analysis in the technique types of molecular biology technology and its application in the environmental microbiology research; based on the purpose of improving efficiency, the researchers will forefront effective solutions for relative issues with maximized efficiency, to lay solid foundation for national development. This article put forwards some application measures for the references of related researchers on the analysis of molecular biology technology.

## Analysis on molecular biology and other related techniques

### Nucleic acid probe monitoring technique.

Nucleic acid probe monitoring technique hold a more important position in the application of molecular biology technology. During the application, the related researcher will conduct a complementary analysis with specific technology, while the length polymorphism through the sequence of DNA fragments can improve the utilization efficiency; after analysis, the researcher will restore it by complementary base - pairing technique or hybridize it by paired technique; of which, hybridizing properties including the following crossing patterns: dotblot mark, narrow line mark and ordinary mark; after hybridization, the researcher need to emphasis the hybridization programmers, for many programs are available at this stage; the nucleic acid hybridization can be adopted by placing the item directly into the solution and completing the progress through nucleic acid; meanwhile a high sensitive monitoring system that have highly efficient in biology monitoring and able to carry better qualitative treatment, will become the key factor in improving efficiency and laying a good foundation for achievement of the research purpose.

### Fluorescent marked hybridization technique.

Fluorescent marked hybridization technique is based on the analysis of markers monitoring for the fluorescent died environmental microbiologist; a probe type hybridization will be conducted according to the result in the experimental film, to ensure better fluctuation of the hybridization; once the hybridization is completed, researcher should scan the sample with focus lens to valid the experimental result. To determine property of the foreign gene, researcher should use FISH technique for integrated test, then carry a serious study by recurring templates. The application of this technique can dramatically increase the sensibility of the PCR, even over1000 times, that is one of the reason to

 

make it popular among researchers. They can apply this technique in batch tests for various genes in the domestic sewage and exhausted water, to ensure identification of pseudomonas in degrading enzymes. Moreover, this technique can provide better assistant for researches by determining the decomposing ability of pseudomonas, through increasing the keep the trace recording of its gene.

**Random amplified polymorphisms technique.**

In molecular biology researching, if researcher needs to monitor the application in the environmental microbial, random amplified polymorphisms technique is the one need to emphasize. This technique need to be carried on few different executive teams, the members should analysis the DNA polymorphism, and study the product of propagating and determination of the binding sites to ensure the genetic binding in specific conditions; the variability of complementary sequences after the binding, is the determine factor for the qualitative changes of genome sequences and reflects the damages of the binding sites; damages may cause variance issues easily. The application of random amplified polymorphisms technique can conduct effective DNA analysis for molecular biology researches; it is a convenient technique for determination through polymorphism since the experiment pattern requires less DNA; it only needs a part of the gene template to amplification of that gene part, therefore it is widely used in fingerprint identification. Beside required primers for the random amplified polymorphisms technique is obtained through the research, can be used in many researches; that is can cut down research funding and widely accepted by biological investigators; for the usage in environmental microbiological experiment, it can improve working efficiency, effectively monitor the status of microbes and have better and positive effects.

**Denaturing gradient gel electrophoresis(DGGE).**

In molecular biology researching, researcher should emphasis denaturing gradient gel electrophoresis technique, which has been widely applied in microbiology over a decade; it can conduct analysis in urea resources through gel electrophoresis, and category the double stranded with the same length according to its bases property; it can propagate the positive and negative DNA of relative outcome from related primers and form vertical migration phenomenon during continuous increasing of concentration situation.

It can carry better decomposition of fracture when the density of the denaturing agent keep increasing; which will build strong hydrogen bonding; and form into a double-stranded structure in some condition, and finally become some relative good shape of DNA molecular and extend its shapes effectively. During this process, the DNA electrophoresis mobility can break it into materials that can be used in environment monitoring works, and more effective.

## The application of molecular biological technique in environment microbiology monitoring

In the environment microbiology monitoring, researchers have to conduct researches to molecular biological technique to ensure improvement on utilization efficiency, and identifying the harmful micro-organisms timely in the environment, and laid solid foundation for the development.[1].

**Environment microbial degradation technology.**

During application of molecular biological technique, environment microbiology, monitor should pay attention to the microbial degradation technology . Which means some relative technique should be applied to improve the enzymatic activity of gems; under certain conditions some improvement can be done to the properties of the host to assure the effective improvement.[2]which means during this progress, the plant root can perform effective degradation to relative pollution, since the good decomposition poets that is formed during growth; those points will take microorganism as essential nutrition; which will optimize the ecological environment as well as keep growing, and to some level removal introduced microorganism. Some narrative research been carried with the wheat root, discovered that it done good handling of microorganism , especially effective removed introduced microorganism in both surface and deep down of the soil; that is a Excellency respond which can be realized during certain conditions, laid solid emendation for cultural development. Therefore researchers should embarrass Theses techniques, for better usage to the environment microbiology treatment process. During the application of molecular biological technique, researcher can perform a

purifying treatment to sewage by cultivation of strains，since the growth factors for strains is NTN, under the grow condition of certain carbon source; this process can expose the benzoic acids effective under certain conditions and form into a proper ferment system, effective cell binding system, to gain good growth between carbon and nitrogen sources, and then lower the underground water pollution level, form effective biodegrading system in underground water, promote a better development opportunities for national environment microbiology monitoring[3].

**The application of molecular biological technique in bacteria study of environment generic project.**

During the research of molecular biological technical, researcher may carry an analysis on the stiltedly and safety. The risk can be identified under certain conditions, since it is the point with more safety issues and delays. During the process of identifying the risks, the researcher can carry analysis in GM parts through probe experiments. Meanwhile due to biological containment, recognize combination microorganism behaviors in time, and make valid depictions in relative characteristics of the microorganism behaviors. The reason for the biological containment, are mostly for non-scientific cultivation during the strains breeding cause death or suicide. Some effective researches have been done for this issue by applying principles into adjustments for the degradation system. Although after degradation of xenophobic substances, relative suicide gene can perform better biodegradable, but the dead cell will have less favorable impact for further development.[4]。

After the complete degradation of benzoic acid, researcher have to carry detailed understanding of its genetic control to improve suicide gene and merge it with other part , which is the better expression on repression of memory. Under the repression of suicide gene, promote will find suitable active opportunities and suppression the weaponized gene in protein. The support for environment microbiology and weaponzied gene can improve the effective of react in some level and reduce environment pollution and generate better influence to the national development.[5].

**Analysis of application of relative techniques.**

In the environment protection, researcher should realize the amount of microbes are en mouse, some of them may cause damages and some more adverse impacts; the bacterial cultivation can be carried in the glassware in better living conditions with stir ct controlled nurturer, any fault monitoring may cause necrosis easily and compose an adverse influences. Therefore for the environment monitors should value own works to ensure providing advantages to the reach and increase effective monitoring of specific genes in complex environment. Analysis should be done for the monitoring result, to ensure identification of gems in soil. According to the experimental and researcher on the mud, conclude the amplification characteristic of specific primer in cycle enzyme concentration of exogenous bacteria, which can boost the effective researches on the first and second loops, and qualitative the germ. During this process, Therese should emphasis not only the ability of degrading enzyme but also monitor the gene transcription level, and then express the pseudonymous bacterial decomposition of special activity of the liver for better monitoring the environment microbiology.

In creative environment microbiology, home working process is tedious, especially for difficulty conditions, not enough quantitative PRC samples will reduce the effectiveness expression of sample size and sensitivities, which will cause some adverse effect. Future researches should be carried to prevent form it and to assure the effective expression of sample size and sensitivities, and promote improvement platform of oligonucleotide microchip, which is a better application method, can speed the research under certain condition. During the application of genetic engineering bacteria, researcher can apply its bio-technical character into monitoring of environment microbiology, and carry better cloning for fluorescence gene based on marking, and tracing in environment microbiology, to ensure better protection optimization for the environment.

## Conclusions

Researchers should pay attention to the application of molecular biological technique initiating environment microbiology, ensure conducting an environment microbiology analysis in shortest

possible time, and promote monitoring and improving according to its characteristics of the microorganism. Both molecular biological study and environment microbiology examination should become one of the national priorities, and laid soil foundation for optimistic environment.

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