

# SCANNING MICROWAVE MICROSCOPE AND ITS USAGE IN BIOMEDICINE

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## ABSTRACT

The application of microwave engineering technology can help provide convenience in several works including to medicine. The scanning microwave microscope is the good example of microwave based tool that can be applied in clinical microscopist. Here, the authors discuss on the use of scanning microwave microscope in biomedicine.

**KEYWORDS:** biomedicine, scanning microwave microscope.

## INTRODUCTION

The application of microwave engineering technology can help provide convenience in several works including to medicine. The scanning microwave microscope is the good example of microwave based tool that can be applied in clinical microscopist. Here, the authors discuss on the use of scanning microwave microscope in biomedicine.

Summary on the published article on using scanning microwave microscope in biomedicine

There are many reports on using scanning microwave microscope in biomedicine. The authors hereby summarize the important ones and show as the following:

## RESEARCH IN BIOMEDICAL PROCESSING

It is approved that scanning microwave microscope is useful for measurement and imaging of complex permeability at micron scales [1]. Hence, it is widely applied for studies on semiconductors [2 – 3]. In biomedicine, the observation of the biological samples is also possible [4]. Parke et al. noted that “*scanning microwave microscope technique can be useful for investigating the local electric behavior of biological samples with a simple model of ionic conduction* [4].”

## RESEARCH IN LABORATORY MEDICINE

The scanning microwave microscope can be applied for diagnosis. The good example is the use for the detection of DNA-hybridization [5]. Kim et al. noted that “*instrumentation does not require labeling of target sequences with fluorophores or other tagging groups* [5].”

Also, use of microwave fixation in the preparation of cell cultures for observation with the scanning electron microscope is also reported as an advent in laboratory medicine [6].

## **DISCUSSION**

It can be seen that microwave engineering technology can be applied in biomedicine. The scanning microwave microscope is the good example. It is widely used in biomedical processing and laboratory medicine.

## **CONCLUSION**

The use of microwave engineering technology is widely seen at present. In medicine, the application can also be seen. There are some interesting reports on application but it is still needs for further research and development international database.

**CONFLICT OF INTEREST:** None

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