

# **Graphene Biosensor for Protein Adsorption**

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# **Research Target**

- **Biosensor development**
- Early diagnosis of cancer
- Cancer biomarker quantification





### **Development of Manufacturing Process**

1. Electrode Processing 2. Graphene Transfer 3. Chemical Modification

4. Biological Modification

5. Portable Device **Development and Testing** 





#### **Experimental Results**

1. Graphene Raman

3. Graphene Biosensor 2. Electrode image **IV Character** 

4. XPS spectrum After Modification

5. Protein Absorption **Real-time Testing** 



## Conclusion

- **Development of graphene biosensor for cancer diagnosis**
- Real-time performance
- Direct conversion of biological signals into electrical signals
- Signal transmission reduction

### **Development of portable device**

#### - Biosensors detect biomolecules at anytime and anywhere just like a mobile phone.