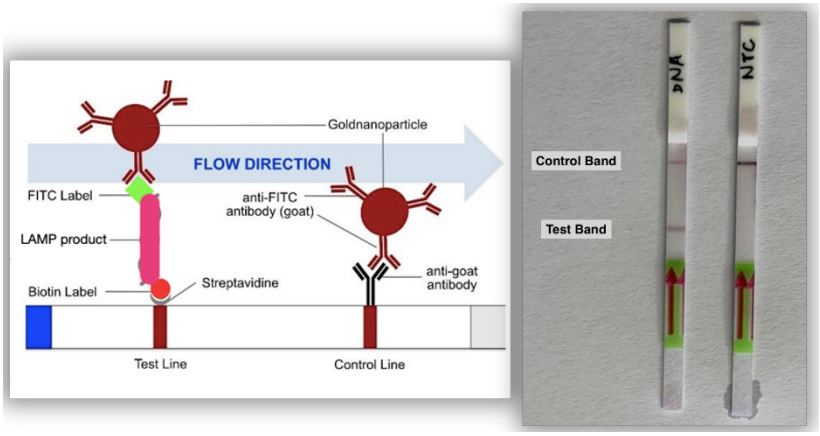
Universität Potsdam
Potsdam Transfer
Transferservice

Transfer Offer
21-09

Ultra sensitive and robust POCT approaches for diagnostics

Description



LAMP-based detection of viral RNA on a test stripe (scheme adapted from Milenia Biotec GmbH)

Prof. Dr. Frank Bier's research group of Molecular Bioanalytics and Bioelectronics focuses on medical diagnostics, especially the development of point-of-care testings (POCT), using different molecular biological and biochemical techniques. Currently, the work focuses on various assay developments for the detection of COVID-19. The main motivation is to design smart and innovative POCT suitable for at-home-testing. One of the research projects investigates the detection of viral RNA to enable an early and reliable diagnosis of infections with SARS-CoV-2 and other pathogens. For a simple and sensitive detection a test strip assay format is combined with the much noticed technique of Loop-Mediated Isothermal Amplification (LAMP) of nucleic acids.
For the application oriented research projects, the group collaborates with numerous research institutions as well as companies and industries mainly in Brandenburg-Berlin area.

Current Research Themes

- Loop Mediated Isothermal Amplification (LAMP) for Nucleic Acid biosensor development
- Peptide-based immunoassays in multititer plate format
- Electrochemical polymer synthesis for molecular recognition (MIPs)
- Multiparameter tests for differential diagnostics
- Interaction studies using SPR and SwitchSense technologies
- Validation of a versatile biosensing platform based on DNA origami and Surface-enhanced Raman spectroscopy

Applications

- POCT Diagnostics
- Medical Diagnostics
- Lateral Flow Assay (LFA)

Keywords

- Biosensor
- LAMP
- Molecular Interactions
- SwitchSense
- Surface Plasmon Resonance (SPR)
- Molecularly Imprinted Polymers (MIP)
- Point-of-Care-Testing (POCT)
- Biomarkers

Interest in cooperation

- Research-based Industrial collaboration
- Research-based collaboration
- Industry-sponsored research

Contact
Transfer Service
Tel: 0331 / 977 61 71
Fax: 0331 / 977 38 70
tech@potsdam-transfer.de

Potsdam Transfer
Center for start-ups, innovation & transfer of knowledge and technology
Karl-Liebknecht-Straße 24–25, Haus 29
14476 Potsdam
www.potsdam-transfer.de

Date 08.11.2021