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TECHNOLOGY OF MICROCONTACT PRINTING FOR ABNORMAL PRION PROTEIN (PRP^{SC}) DETECTION

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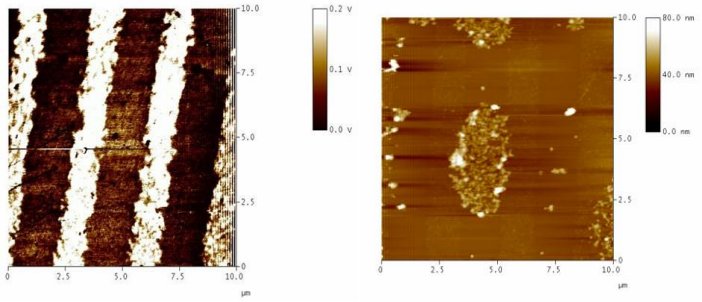
Purpose: The technology is used for ultrasensitive detection prion protein (PrP^{Sc}) in biological samples (blood, cerebrospinal fluid, etc.) on locally touch activated silicon surface by using atomic force microscopy.

Application:

- medical virology
- neurodegenerative diseases
- laboratory diagnostics
- biosensors and biochips technology
- nanotechnology



Technical characteristics of technology:

For immobilization detected antigen (PrP^{Sc}) is used silicon surface

- Hydrophilic and resistant to detergent
- for increase sensitivity: prepared additional monomolecular BSA (bovine serum albumin) touch film (thickness 6±0,4 nm)
- for detection prion protein from the samples: immobilized monoclonal anti-prion antibodies
- thickness film after PrP^{Sc} deposited become 26±0,5 nm)

Operating characteristics of solutions:

- Used solid silicon surface
- Area of immobilized BSA (comparison protein) touch film is 100:100 μm
- Concentration of monoclonal anti-prion antibodies (protein recognition) is 0,0001 mg/ml

Advantages of the technology:

- Technology is ecologically safe
- Can used for lifetime and post-mortem diagnostics of the prion disease and other neurodegenerative disorders
- posibilility for detection PrP^{Sc} in quantities (10^{-12} pikogramm/ml) using tissue biopsy or blood samples

Intellectual property:

the technology is protected by Belarussian patent

Forms of cooperation:

technology sale, production of solutions on order.