

## Modified electrode for ultrasensitive detection of HPV-16 virus protein

### About the invention

The invention relates to a modified gold-based electrode designed for the detection of recombinant human papillomavirus type 16 (HPV-16) protein. The electrode functions as a biosensor enabling ultrasensitive detection using electrochemical techniques.

The electrode surface is functionalized with a chemical linker and monoclonal anti-HPV-16 antibodies, ensuring high selectivity and sensitivity. The developed biosensor allows rapid, low-cost analysis with measurement times reduced to minutes.

The solution may serve as an alternative or complementary diagnostic tool to molecular methods, enabling early detection of HPV-16 infections associated with cervical cancer and head and neck cancers.

### Technology readiness level

**TRL 4** - Technology validated in laboratory conditions



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### IP protection

The invention is protected by a patent application in the Polish Patent Office under the number: **P.444335**.

### Applications

- HPV-16 infection diagnostics,
- Early cancer biomarker detection,
- Point-of-care biosensing platforms.

### Possible cooperation

- Technology licensing,
- Joint R&D and diagnostic validation,
- Integration with diagnostic platforms..