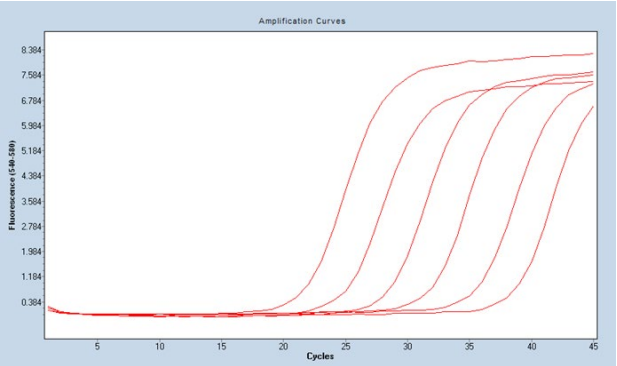
Diagnostic kit for the detection of human papilloma virus (HPV) integration status (iHPV kit)

Introduction:
Cervical cancer is the seventh most common malignancy with mortality rate of 6.8 per 100,000 people. It is caused by the presence of aggressive forms of HPV (human papilloma virus). More than 2.6 billion women are at the risk of the cancer and about 500.000 cases are annually detected worldwide. The technology allows the sensitive detection of the most abundant high-risk HPV presence in a sample with additional information about integration status, where episomal (not-integrated) forms of the
HPV are less pathogenic than the integrated HPV forms. It expands the information and helps to provide the patients effective treatment. The procedure is simple to perform, rapid and reliable.

Technology description:
The principle of the technology is based on a quantitative fluorescent detection of amplification of HPV genes E2, E6 using the polymerase chain reaction (PCR) in real time using specific TaqMan probes. The technology detects 3 genes (HPV E2, E6, and human GAPDH) in one PCR reaction and contains 3 different fluorescent dyesmcompatible with mainstream real-time thermocyclers. The GAPDH detection serves as
an internal control of amplification and/or DNA presence in the PCR reaction. While the technology can be adapted for various genotypes, it is currently able to detect high-risk genotypes of HPV- 16, 18, 31, 56.

Key features:

- Ability to differentiate form of the virus (free – episomal vs integrated form, integration of HPV has been associated with cancer progression)
- Capable of absolute quantification of HPV load in the sample
- Ability to detect the low of 4 copies of HPV genome in an analyzed sample per PCR reaction



Development status:
Prototype of a diagnostic kit, stability tests, performance tests, primer design, optimized standard operation protocol, documentation for manufacturing, related know how.

IP protection:
Subject to confidentiality, protected know-how

Ownership:
Institute of Molecular and Translational Medicine, Faculty of Medicine and Dentistry, Palacky University, Olomouc

Contact:
More information is available upon signing a CDA/NDA. Please contact IMTM´s director (director@imtm.upol.cz) or the technology transfer office (tto@imtm.upol.cz)