

Invention gives improved gene technology analysis

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A patent for a system that gives more reliable results in gene technology-based diagnostic tests has been granted to researchers at the Norwegian Institute of Public Health (NIPH).

Gene technology analysis is used increasingly in diagnostic tests for detection of minute amounts of cells, bacteria and viruses in biological samples. However, false positive or negative results may occur.

- To uncover false negative results, an internal control reagent can be included in the tests to verify that the analysis results are valid. The problem with the internal controls used in today's analyses is that they can only be added during, or at the end of the analysis process. This means that quality assurance is incomplete, explains Einar Sverre Berg at the Department for Virology.

Together with colleague Kjell Skaug he invented a protective shell for the internal control, based on cell/virus-mimicking liposomes. The liposome/internal control particles can thus be mixed with the biological test material when the sample is taken and be present during the entire analytical process. Whole process quality assurance is thereby achieved with more reliable results.

Chlamydia test first

Berg and Skaug were among the first in the world to show that restrictive

substances in urine samples are an important source of false negative results in gene technology-based chlamydia tests.

The scientists recognised the problem with incomplete quality assurance, and invented the solution for the tests.

- A fantastic property of the system is that it isn't limited to just one test. It can be used in any gene technology-based assay detecting biologically substances. The liposome can be tailored and adapted according to the target – be it a virus or bacterium. The potential, in other words, is enormous, says Berg.

Berg and his colleague have applied for a patent on their discovery in all industrialised countries and have established the company IC Particles AS. Patents were first granted in New Zealand and Australia, followed by Norway. Berg is also optimistic about getting a patent in the USA within this year.

- Without the NIPH's goodwill and patience it is likely that the IC Particle's invention would not have been developed, concludes Einar Sverre Berg.

Source: Norwegian Institute of Public Health

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