

CASE REPORT

Reporter Gene Luciferase

This project is implemented through the CENTRAL EUROPE Programme co-financed by the ERDF.



REPORTER GENE LUCIFERASE

Summary

A reporter gene (often simply reporter) is a gene that researchers attach to a regulatory sequence of another gene of interest in cell culture, animals or plants. Certain genes are chosen as reporters because the characteristics they confer on organisms expressing them are easily identified and measured, or because they are selectable markers. Reporter genes are often used as an indication of whether a certain gene has been taken up by or expressed in the cell organism population.

Technology

Cell lines are genetically modified, in order to produce the enzymes luciferase at the same time they are producing immune-regulating proteins. The advantage is that by using luciferase, light signals can be induced, which are easily measurable and quantifiable. Furthermore, when analysing different cells, there is only one light signal to measure instead of various individually produced proteins. This technique is particularly useful for studying numerous different components.

Development stage

Laboratory tested.

Market/Opportunity

Currently the most important applications of biomarkers are in drug discovery and development. Biomarkers play an important role in various therapeutic areas particularly cancer, cardiovascular diseases and disorders of the central nervous system. Biomarkers are useful not only for diagnosis of some of these diseases but also for understanding the pathomechanism as well as a basis for development of therapeutics. Biomarkers will facilitate the combination of therapeutics with diagnostics and will thus play an important role in the development of personalized medicine. Biomarker markets are estimated from 2009 to 2019 according to share of markets for various technologies and applications: proteomics, metabolomics, molecular diagnostics, drug discovery, clinical trials, and bioinformatics.

New analysis from Frost & Sullivan, European Biomarker Analysis Market, finds that market earned revenues of \$694.00 million in 2008 and estimates to reach \$2202 million in 2015. This is an early growth stage market with significant potential.

IP

Though the invention is not patentable, it has high commercialisation potential.

License agreement or joint further development.

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