SibEnzyme

SIBENZYME

The main research activities of company are search, isolation and study of new enzymes for site-specific DNA cleavage. SibEnzyme develops the new enzymes application in epigenetic studies and diagnostic techniques.
For more than 20 years company has become one of the world leaders in production of restriction endonucleases and the only producer of new enzymes - methyl-directed site-specific DNA endonucleases (MD-endonucleases). Company holds more than 15 patents.
Company sells products in Russia, USA, EU, Japan, China, India, Australia, Malaysia, Korea, Turkey, etc.
SibEnzyme developed and patented a method of GLAD-PCR-Assay.

SYGMA Novosibirsk

SYGMA.NOVOSIBIRSK NANOTECHNOLOGY CENTRE

The SYGMA.Novosibirsk provides a full range of services for the development of nanotech startups.

Twenty-one high-tech projects are under realization at the SYGMA.Novosibirsk nanocentre and 20 more are under development.

SYGMA-Novosibirsk is part of the network of nanocentres created by RUSNANO.

VECTOR

THE STATE RESEARCH CENTER OF VIROLOGY AND BIOTECHNOLOGY VECTOR

Center was founded in 1974. Basic research is focused on generating new scientific knowledge in molecular biology, virology, genetic engineering, biotechnology, epidemiology and ecology. VECTOR comprises several research institutes, production units, and other departments. Moreover, the VECTOR is an associated member of several unions and associations, both in Russia and internationally.

VECTOR is one of the leading world centers, developing Ebola vaccine.

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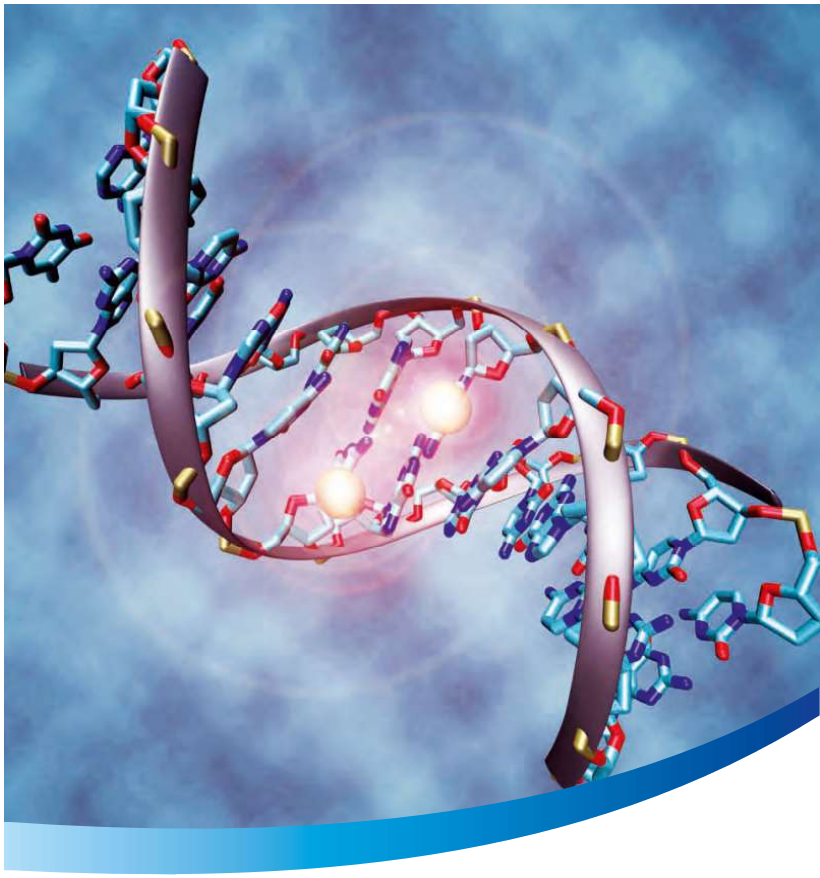


Early cancer detection

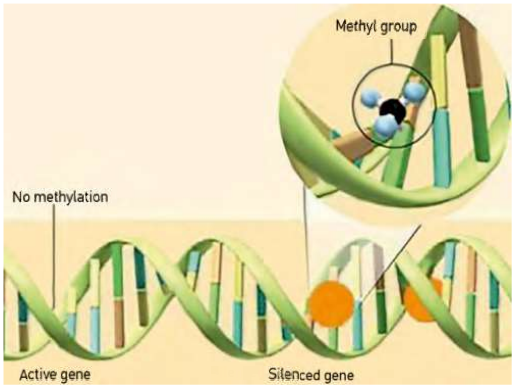
Sk Resident

Epigenetic test based on GLAD-PCR-Assay allows detection of cancer at the early stages

epigene

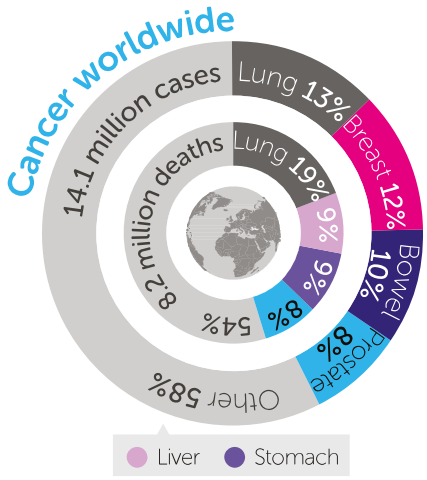
How cancer is forming?

It was shown that the beginning of cancer is acomplished by an aberrant methylation of tumor suppressor genes and these genes become silent, they are switched off.
Determination of silent tumor suppressor genes allows to detect cancer at the early stages when still there are no clinical indications of disease.



Early detection

Early detection of cancer allows applying an effective treatment and saving a life of patient. Recently developed epigenetic methods of cancer diagnostic allow to detect the disease at early stages. However, these epigenetic tests are based on method of bisulfite conversion, which is quite complicated and often results in false-positive/negative data.
That is why such tests are not widely used.



CANCER RESEARCH UK, 2014

Project innovations

Method of methylation detection, developed by SibEnzyme, is called GLAD-PCR-Assay. Recently SibEnzyme has found unique enzymes and (based on these enzyme's properties) developed a new technique, which allows finding methylated RCGY sites with very high accuracy and sensitivity. Such methylation in regulatory regions of genes makes them silent.

Based on a method of GLAD-PCR-Assay a development of a first test system for detection of colorectal cancer has finished now in The State Research Center of Virology and Biotechnology VECTOR — one of the leading Russian molecular biology institutions. Nowadays we completed selection of genes panel, specific for colorectal cancer.

The test now is on its way to clinical trials.

Source of DNA:
blood as universal source for DNA isolation

4-6 hours
Very high sensitivity (from several DNA copies)

3 simple stages, standard real-time PCR
Regular laboratory staff

from 30 Euro
cost for patient