

DNA ESSENCE – DNA BASED INGREDIENTS FOR FOOD, BEVERAGES AND COSMETICS



ARTIFICIAL DNA OF ANIMALS LIKE SHARKS, RHINOS OR TIGERS CAN TRANSFORM PRODUCTS INTO A UNIQUE EXPERIENCE



WHAT IS THE BACKGROUND?

Deoxyribonucleic acid (DNA) is essential for all known forms of life. These molecules carry the genetic instructions used in the development, functioning and reproduction of all known living organisms.

In recent years, scientists have been successful in deciphering and annotating the genomes of a multitude of animal species. This has led to the discovery of many novel gene sequences. With the help of modern analytical methods, it is possible to attribute a function to some of these newly discovered genes (see appendix 1).



These novel findings and discoveries can be used to identify a connection between the observed effect in nature and specific DNA molecules. Furthermore, in recent years, the cost-effective production of artificial DNA was made possible using biotechnological methods. These technological breakthroughs enable new business opportunities.

WHAT IS DNA ESSENCE?

DNA Essence is a biotechnology start-up company founded in 2015 by the biologist Dr. Johannes Kabisch, the entrepreneur Dr. Gunter Festel and the patent attorney Dr. Matthias Stolmar with headquarters in Switzerland (see appendix 2).

Focus of DNA Essence is on the development of innovative artificial DNA based ingredients for consumer goods producers in the food, beverages and cosmetics industry. The DNA will be produced artificially using biotechnological methods, so that our product offers a possibility to obtain the necessary ingredients with no harm to animals.

The general use of artificial DNA as an ingredient for food, beverages and cosmetics is protected by a recently filed patent application.

WHAT ARE WE OFFERING?

In partnership with food, beverages and cosmetics producers, DNA Essence will develop and produce customized formulations of artificial DNA which can be added to all kinds of products.

The artificial DNA based ingredients are delivered as pure DNA in water or water droplets with artificial DNA coated with different materials approved for food applications. These ingredients can be directly added to the products at the end of the production process or delivered separately in, e.g., a sachet, to be added to the product before consumption.

Due to modern biotechnological production methods the costs of small amounts of artificial DNA is only a few Euro cents per product unit which gives the consumer goods producers high flexibility regarding their pricing strategy.

DNA Essence can also grant licenses to food, beverages and cosmetics producers, if they prefer to develop and produce the artificial DNA formulations internally.

WHAT ARE YOUR ADVANTAGES?

The artificial DNA can be introduced as an additional emotional factor to differentiate products from those of competitors, especially, if a differentiation is difficult based on technical or other rational aspects.

For example, alcoholic beverages, like beer, wine or spirits, with artificial DNA of wild animals, like sharks, rhinos or tigers can use the emotions of energy and strength associated with these animals to enable a significant product differentiation especially for male consumers.



Interesting is also the product differentiation in the field of cosmetics products due to the fact that the phenomenon of beauty is often associated with animals like dolphins or swans.



The experience for consumers will be increased by providing semi scientific information regarding the specific animal related DNA sequences used in the products on a special website which can be directly accessed by QR codes. This website can be managed by DNA Essence or directly by the consumer goods producer with the scientific support of DNA Essence.

Some of the profits from this business can be donated to organizations like WWF to support their work. This direct link to help endangered animals enables consumer goods producers to realize additional marketing effects.

The artificial DNA can also be used as a security feature to fight against product piracy. For this purpose secret DNA sequences can be added together with the animal specific DNA sequences so that each product could have a unique DNA profile.

HOW TO GET IN CONTACT?

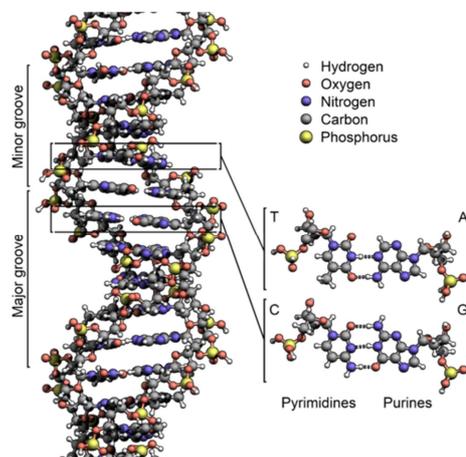
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APPENDIX 1: DNA (SOURCE: WIKIPEDIA)

Deoxyribonucleic acid (DNA) is a molecule that carries most of the genetic instructions used in the development, functioning and reproduction of all known living organisms and many viruses. DNA is a nucleic acid; alongside proteins and carbohydrates, nucleic acids compose the three major macromolecules essential for all known forms of life.

Most DNA molecules consist of two biopolymer strands coiled around each other to form a double helix. The two DNA strands are known as polynucleotides since they are composed of simpler units called nucleotides. Each nucleotide is composed of a nitrogen-containing nucleobase - either cytosine (C), guanine (G), adenine (A), or thymine (T) - as well as a monosaccharide sugar called deoxyribose and a phosphate group. The nucleotides are joined to one another in a chain by covalent bonds between the sugar of one nucleotide and the phosphate of the next, resulting in an alternating sugar-phosphate backbone.



According to base pairing rules (A with T, C with G), hydrogen bonds bind the nitrogenous bases of the two separate polynucleotide strands to make double-stranded DNA. Within cells, DNA is organized into long structures called chromosomes. During cell division these chromosomes are duplicated in the process of DNA replication, providing each cell its own complete set of chromosomes.

APPENDIX 2: TEAM OF DNA ESSENCE

Dr. Johannes Kabisch

holds degrees in microbial physiology and molecular biotechnology. He is head of a research group that develops microbial platforms for the renewable production of fuels and fine chemicals. His expertise in genomics, bioinformatics, molecular and synthetic biology is the core behind the technology and products of DNA Essence.



Dr. Gunter Festel

has various university degrees in natural & social sciences including a PhD in chemistry and a PhD in economics. After a professional career with Bayer, Arthur D. Little and McKinsey he founded his own investment company FES-TEL CAPITAL and has (co-) founded 10 biotechnology companies.



Dr. Matthias Stölmár

studied chemistry and received his PhD at the University of Lausanne. He has been practicing IP law since 1996 for Robert Bosch as well as in private practice giving advice to major big companies as well as start-ups. He focuses on prosecution and litigation of patents in the fields of chemistry, pharmacy, biotech and materials sciences.



Dr. Hongchuan Xin

holds a PhD in physical chemistry at Chinese Academy of Sciences. He focuses on R&D in the fields of catalysis, bioenergy and biochemicals, and international technology transfer and collaboration.

