

Oligonucleotides for detection and differentiation of newcastle disease virus strains

About technology

Germany, Poland, France, United Kingdom and Italy are by far the largest producers of poultry in Europe. With leading position in the sector, however, comes susceptibility to poultry diseases, such as avian influenza or **Newcastle Disease (ND)**. The ND virus is endemic to many countries, affecting bird population worldwide. The disease exhibits very high transmission rates among birds and mortality rate of up to 100% of affected individuals, which may prove to be particularly devastating, should ND outbreak affect poultry farms. Consequently, prevention programs aimed at limiting or eradicating outbreaks of Newcastle Disease were introduced in many European countries.

Genetic material of the virus is particularly susceptible to mutations, which promotes the formation of new strains, against which existing vaccines may prove ineffective. Developing efficient method of detection and identification of specific strains of the virus is therefore particularly important, as it provides farmers and veterinary institutions with an effective method of countering virus outbreaks, and thus avoiding severe financial losses.

Developed technology allows for effective **detection** and **differentiation** of **ND virus strains**. The method relies on degenerate oligonucleotides complementary to sequences encoding Fusion F protein for detection of the virus in swabs from respiratory and/or digestive tracts of birds. The invention may be widely used **for screening and prevention of ND epidemics in farmed poultry**.

Technology related to offer no. 031/2017/1



Research Team

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Implementation progress

TRL 4 – Technology validated in laboratory conditions

Cooperation opportunities

- Licensing agreement
- Transfer of ownership
- Spin off