

Reagent for the preservation of microorganisms in the lyophilisation process

About technology

Lyophilisation is one of the most popular **low-temperature drying methods**, involving the evaporation of solvent from frozen substances by sublimation. The process is widely used in both the food, cosmetic and pharmaceutical industries, as well as in the preservation of biological materials. It is often used for the preservation of bacteria for long-term viability.

Due to the low temperatures used both during the freezing of the preparations and at the freeze-drying stage itself, bacterial activity and viability are reduced during the process. To prevent this, it is common to add protective substances – cryoprotectants – to preparations before the freeze-drying process. One such substance is Reagent 18, a reagent containing Bovine Serum Albumine (BSA) recommended by the American Type Culture Collection (ATCC). The disadvantage of the proposed solution, despite its effectiveness, is the high cost of the reagent due to the use of expensive BSA.

Researchers at the University of Gdansk have developed a **new lyophilisation reagent**, in which a many times **cheaper substance of plant** origin is used as a substitute for the costly bovine serum albumin. The modification made not only **significantly reduces the cost** of the preparation, but also makes it more humane as the reagent is devoid of zoonotic components. What is particularly **important** is that the efficiency of the developed reagent remains at the same level as with the reagent containing BSA, and in some cases even exceeds it.



TRL 4

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IP Protection

The invention is the subject of patent protection:

- PL: **Pat.244159**,
- EU: **EP3670645**.

Implementation progress

TRL 4 –Technology validated in laboratory conditions

Cooperation opportunities

- Licensing agreement
- Transfer of ownership
- Spin off