



PRODUCT INFORMATION

Protein Drying Stabiliser – 10 ml

PRODUCT CODE: X-STB-0001

STORAGE: 2 - 8 °C, protect from sun light.

PRODUCT DESCRIPTION

BioThinX proprietary biomolecule drying stabiliser acts like a chemical chaperone, inhibiting protein aggregation and denaturation. As the biomolecules are dried, the reagent forms a glassy matrix that maintains protein conformation and integrity.

Vitrification-drying is used to stabilise protein structure and is applicable for long-term storage in every aspect of biological, medical, and pharmaceutical sciences. In this method water is completely removed and the biomolecules are instead surrounded and protected by small, low molecular weight molecules that do not affect the biological reactivity or interfere in chemical or biological reactions.

PRECAUTIONS AND DISCLAIMER

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

FORMULATION

Protein Drying Stabiliser is stable for shipping at ambient temperature. The product contains a HEPES, NaCl, carbohydrate buffer base at neutral pH.

PREPARATION AND HANDLING

To stabilize protein preparations in dry form add between 1-10 parts of the stabilizer solution to one part protein solution. The optimal ratio should be titrated empirically. Mix gently. Aliquot appropriate volumes in vials or reaction vessels.

The volume per container should be low enough to allow the maximum surface area to be exposed to the air during drying. Air dry the protein/stabiliser mixture at 20-37 °C with activated silica gel or molecular sieve until completely dry. Store the final product airtight.

STORAGE / STABILITY

For long term storage the product should be stored between 2-8 °C.

RECOMMENDED DILUTION

Ready-to-use solution, use 1-10 parts of the stabilizer solution to one part protein solution.

BACKGROUND REFERENCES

1. Hengherr, S., et al., High-temperature tolerance in anhydrobiotic tardigrades is limited by glass transition, *Physiol. Biochem. Zool.*, 82, 749-755 (2009).
2. Koubaa, S., et al., Structural properties and enzyme stabilization function of the intrinsically disordered LEA₄ protein TdLEA3 from wheat, *Nature Scientific Reports*, (9) Article number: 3720 (2019).
3. Carpenter, J., F., Comparison of solute-induced protein stabilization in aqueous solution and in the frozen and dried states, *J. Dairy Sci.* 73, 3627-3636 (1990)
4. Killian, M., S., Stabilization of dry protein coatings with compatible solutes, *Biointerphases*, 13(6), 06E401 (2018).



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