Product Information

Proteinase K-Agarose

Lyophilized Powder, Proteinase K from *Tritirachium album*

P9290

Storage Temperature: 2-8 °C

Product Description

Proteinase K is a serine protease with broad substrate specificity.[1-3] It degrades many proteins in the native state even in the presence of detergents. Proteinase K was isolated from a fungus able to grow on keratin (hair). Its ability to digest native keratin gave the enzyme its name "Proteinase K".[4] Proteinase K requires 1–5 mM Ca^{2+} for activation.

Proteinase K is used in molecular biology research to digest unwanted proteins, such as nucleases from DNA or RNA preparations from microorganisms, cultured cells, and plants.[5-11] Proteinase K has been used to remove endotoxins bound to such cationic proteins as lysozyme and RNase A.[12]

This Proteinase K-Agarose product is prepared by the immobilization of proteinase K, originally isolated from *Tritirachium album*, to activated crosslinked beaded agarose. Several references have cited use of this product in their research applications.[13-22]

Precautions and Disclaimer

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

Product

This Proteinase K-Agarose product is sold as a lyophilized powder stabilized with lactose.

Preparation

General instructions for re-suspension of our enzyme-agarose conjugates include the following steps:

1. Suspend the lyophilized enzyme-agarose to 5-10 mg solid/mL water.
2. Allow brief hydration of the lyophilized powder.
3. Filter and wash the rehydrated enzyme-agarose product several times with either water or your intended buffer.
4. Re-suspend the enzyme-agarose in your intended buffer. The product is now ready for use.

Storage/Stability

For re-use of our enzyme-agarose conjugates, the following steps may be used as a general guide:

- Wash the enzyme-agarose with water and/or buffer until it is free of substrates.
- For long-term storage, enzyme-agarose products may be re-converted to their dry form, if desired, as follows:
  - Wash the enzyme-agarose with the buffer of choice.
  - Drain excess buffer.
  - Dry the enzyme-agarose in a vacuum desiccator.
  - Store the freshly lyophilized enzyme-agarose at 2–8 °C.

References

1. Ebeling, W. et al., Eur. J. Biochem., 47(1), 91-97 (1974).
2. Sweeney, P. J., and Walker, J. M., Methods Mol. Biol., 16, 305-311 (1993).
3. Kraus, E., and Femfert, U., Hoppe Seylers Z. Physiol. Chem., 357(7), 937-947 (1976).
4. Betzel, C. et al., Eur. J. Biochem., 178(1), 155-171 (1988).
5. Lizardi, P. M., and Engelberg, A., Anal. Biochem., 98(1), 116-122 (1979).
6. Gross-Bellard, M., et al., Eur. J. Biochem., 36(1), 32-38 (1973).
7. Sambrook, J. et al. (eds.), Molecular Cloning: A Laboratory Handbook, 2nd edition. Cold Spring Harbor Press (Cold Spring Harbor, NY), p. 1.61 and p. B.16 (1989).
8. Kasche, V. et al., Prep. Biochem., 11(3), 233-250 (1981).
9. Hansen, J. N., Prep. Biochem., 4(6), 473-488 (1974).
10. Holm, C. et al., Gene, 42(2), 169-173 (1986).
11. La Claire, J. W., and Herrin, D. L., Plant Mol. Biol. Reporter, 15(3), 263-272 (1997).
12. Petsch, P. et al., Anal. Biochem., 259(1), 42-47 (1998).
13. Champeil, P. et al., J. Biol. Chem., 273(12), 6619-6631 (1998).
14. Erez, Z. et al., Nature, 541(7638), 488-493 (2017).
15. Eyal, S. et al., Development, 146(14), dev167882 (2019).
16. Zuo, Y. et al., PLoS ONE, 14(10), e0223299 (2019).
17. Lai, J.-J. et al., Immunity, 52(1), 123-135.e6 (2020).
18. Panda, S. K. et al., Proc. Nat. Acad. Sci. USA, 117(6), 3103-3113 (2020).
19. Harman, J. L. et al., eLife, 9, e54100 (2020).
20. Hu, R. et al., J. Anim. Sci. Biotechnol., 12, 25 (2021).
21. Aguilar, C. et al., Nat. Commun., 12(1), 3392 (2021).
22. Pointner, L. et al., Front. Allergy, 2, 680937 (2021).

Notice

We provide information and advice to our customers on application technologies and regulatory matters to the best of our knowledge and ability, but without obligation or liability. Existing laws and regulations are to be observed in all cases by our customers. This also applies in respect to any rights of third parties. Our information and advice do not relieve our customers of their own responsibility for checking the suitability of our products for the envisaged purpose.

The information in this document is subject to change without notice and should not be construed as a commitment by the manufacturing or selling entity, or an affiliate. We assume no responsibility for any errors that may appear in this document.

Technical Assistance

Visit the tech service page at SigmaAldrich.com/techservice.

Terms and Conditions of Use

Warranty, use restrictions, and other conditions of sale may be found at SigmaAldrich.com/terms.

Contact Information

For the location of the office nearest you, go to SigmaAldrich.com/offices.

P9290dat Rev 01/24 GCY,MAM