

## Product Description

Samples such as cell or tissue extracts contain numerous endogenous proteases and phosphatases, which can readily lead to protein degradation or demodification in the extracts, thereby affecting subsequent protein detection. Therefore, adding appropriate protease and phosphatase inhibitors to extracts and similar samples is an effective method to prevent protein degradation and demodification. This product, Protease and Phosphatase Inhibitor Cocktail, EDTA-Free (100×), is a mixed solution of protease and phosphatase inhibitors comprising components with broad specificity for aspartic protease, cysteine protease, serine protease, acidic protease, and aminopeptidase, including AEBSF, aprotinin, bestatin, E-64 (trans-Epoxy succinyl-L-leucylamido-(4-guanidino)butane), leupeptin, and pepstatin A, as well as sodium fluoride,  $\beta$ -glycerophosphate, and sodium orthovanadate as phosphatase inhibitors. AEBSF is a water-soluble irreversible inhibitor of serine proteases, with inhibition constants similar to those of PMSF and DFP. It effectively inhibits proteases such as trypsin, chymotrypsin, plasmin, kallikrein, and thrombin, serving as a substitute for PMSF and DFP. AEBSF exhibits lower toxicity, better water solubility, and improved stability in aqueous solutions. Aprotinin is a competitive reversible inhibitor of serine proteases; Bestatin is a reversible inhibitor of aminopeptidases; E-64 is an irreversible inhibitor of cysteine proteases; Leupeptin is a reversible inhibitor of serine and cysteine proteases; Pepstatin A is a reversible inhibitor of aspartic proteases. Sodium fluoride is a reversible inhibitor of acid phosphatase;  $\beta$ -glycerophosphate is a reversible inhibitor of serine/threonine phosphatases; Sodium orthovanadate is a reversible inhibitor of alkaline phosphatase and tyrosine phosphatase.

## Components

Components	BR4C123-01
Protease and Phosphatase Inhibitor Cocktail, EDTA-Free (100×)	1 mL

## Storage

Store at  $-20\pm 5^{\circ}\text{C}$ .

## Notes

1. This product is only for scientific research purposes, not for clinical diagnosis.
2. The product should be mixed thoroughly before use and avoid repeated freeze-thaw cycles.
3. The proteinase and phosphatase inhibitor mixture of this product is a 100× stock solution. When using, add it to the lysis buffer at a ratio of 1:100, mix well, and the solution is ready for use.
4. Lysis buffer containing a mixture of protease and phosphatase inhibitors should be prepared and used immediately, rather than being frozen for later use. After the required inhibitors are added and thoroughly mixed, routine cell or tissue lysis and protein extraction can commence.
5. This product may be appropriately aliquoted for storage and should be added to suitable solutions such as lysis buffer before use.
6. The protease and phosphatase inhibitors contained in this product are harmful to humans. Handle with care and take effective protective measures to avoid direct contact with the human body or inhalation.
7. For your safety and health, wear laboratory coats and disposable gloves during operation.