

# Technical Data Sheet

## Trypsin inhibitor >7000 BAE from soybean

for biochemistry

Order number: 1310

The soybean trypsin inhibitor (SBTI) is a soluble protein of 20 kDa that is able to form a stable and enzymatically inactive 1:1 complex with trypsin and trypsin-like proteases (e.g. plasma kallikrein, coagulation factor X). SBTI acts as a competitive inhibitor. The inhibition is reversible and works best at approx. neutral pH (optimum activity of SBTI is at pH 8).

To a lesser extent, SBTI can also neutralize chymotrypsin and plasmin. In contrast, metalloproteases, tissue-based kallikrein, acid proteases (pepsin) or thio-proteases are not affected by the presence of SBTI.

### Application

Soybean trypsin inhibitor (SBTI) is primarily used to inactivate trypsin when subculturing adherent cells. After detachment of the cells by using trypsin or trypsin-EDTA, the dissociation process is immediately stopped by SBTI addition. SBTI is an excellent alternative to serum (which is often used to inactivate trypsin simply by dilution) and is particularly preferable when culturing is performed under serum-free conditions.

The appropriate amount of SBTI depends on the amount of trypsin used: 1 ml of SBTI solution (with a working concentration of 1 mg/ml) is added per 1 ml of trypsin solution. To remove the solution, it is recommended to centrifuge the cell suspension for a few minutes at 1000 rpm and resuspend the resulting cell pellet in suitable medium.

### Preparation of a solution

SBTI is commonly dissolved in water, phosphate buffers (e.g., 0.067 M, pH 7.6), balanced salt solutions, or serum-free media at a concentration of 1 mg/ml. Concentrated aqueous solutions greater than 10 mg/mL may be turbid and have a yellowish coloration.

### Storage and Stability

Store powder at -20 °C. Sterile filtered solutions can be stored at 2-8°C for up to 7 days and at -20°C for longer periods. However, freeze-thaw cycles should be avoided, and we recommend preparing aliquots for freezing. SBTI is heat-sensitive; it is reversibly denatured by brief heating to 80 °C and irreversibly inhibited by higher temperatures.

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