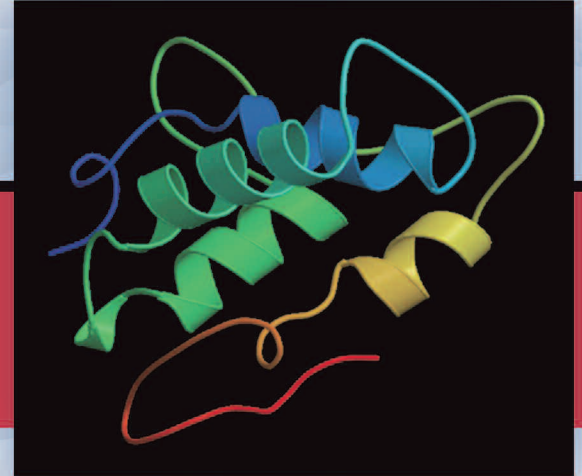


Corn Trypsin Inhibitor

- Available as a reagent or in blood collection tubes
- Purity and quality guaranteed
- Bulk quantities available

To study tissue factor-dependent reactions during blood coagulation.



Corn Trypsin Inhibitor Application

Corn trypsin inhibitor (CTI) is a small protein ($M_r = 12,500$) that is localized in the kernels of most species of corn. CTI is not only an inhibitor of trypsin, but is also a specific inhibitor of human factor XIIIa when tested in blood clotting experiments. The inhibitor forms a one-to-one complex with either trypsin or factor XIIIa, and when added to plasma, prolongs the activated partial thromboplastin time (aPTT) without affecting the prothrombin time (PT) assay. The specificity for factor XIIIa makes the inhibitor useful for the segregation and study of tissue factor (TF)-dependent coagulation reactions.

The use of CTI to study TF-dependent reactions has been documented in literature (1-4). Studies indicate that suppression of the contact pathway of coagulation is essential when attempting to perform TF-dependent assays in whole blood or plasma samples. The addition of CTI at the point of sample collection prevents activation of the contact pathway during subsequent sample processing steps, thus reducing in-vitro artifact. The most common use of CTI is associated with thrombin generation assays when attempting to work at low TF concentrations. HTI's CTI product is performance tested for this specific application.

Reagent

HTI's CTI product is extracted from ground kernels of corn into a physiologic buffer. The extract is then de-fatted using acetone, and the protein is further purified by employing gel filtration and ion-exchange chromatography. The final CTI preparation appears as a single band by SDS-PAGE analyses under both reducing and non-reducing conditions. Preparations of CTI are tested for the ability to prolong the aPTT assay without affecting the PT assay. The specific activity of each lot of CTI is determined, and one unit is defined as the amount of CTI required to double the aPTT of normal human plasma. Purified CTI is formulated in 20 mM Tris, 0.15 M NaCl, pH 7.4 and should be stored frozen at -70°C or colder.

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Continued on reverse

Blood Collection Tubes

To simplify the process of collecting samples with added CTI, HTI has developed blood collection tubes containing CTI. These tubes simplify the process of conducting TF-dependent studies by allowing you to draw blood directly onto an anticoagulant containing CTI. You may choose to use our standard CTI/Citrate formulation or you may create your own custom formulation. HTI's blood collection tubes are not sterile and are manufactured and sold for research use only.

References

1. Rand MD, Lock JB, van't Veer C, Gaffney DP, Mann KG. Blood clotting in minimally altered whole blood. *Blood*. 1996;88:3432-3445.
2. Cawthern KM, van', V, Lock JB, DiLorenzo ME, Branda RF, Mann KG. Blood coagulation in hemophilia A and hemophilia C. *Blood*. 1998;91:4581-4592.
3. Dargaud Y, Luddington R, Baglin TP. Elimination of contact factor activation improves measurement of platelet-dependent thrombin generation by calibrated automated thrombography at low-concentration tissue factor. *Journal of Thrombosis and Haemostasis*. 2006;4:1160-1161.
4. Mann KG, Whelihan MF, Butenas S, Orfeo T. Citrate anticoagulation and the dynamics of thrombin generation. *J Thromb Haemost*. 2007;5:2055-2061.

To Purchase

Corn Trypsin InhibitorCatalog Number: CTI-01

CTI collection tube (50 µg/mL CTI, 11 mM Citrate, 5 mL draw).....Catalog Number: SCAT-27-4.5/5



**Haematologic
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Haematologic Technologies, Inc is a primary manufacturer of high-quality coagulation proteins and research reagents including: purified plasma zymogens, enzymes, cofactors, inhibitors, substrates, antibodies, sample collection tubes and ELISA reagents.

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