



Be Ready. When Minutes Matter.

Pathogen Reduced Cryoprecipitated Fibrinogen Complex
prepared from the
INTERCEPT® Blood System for Cryoprecipitation

INTERCEPT Pathogen Reduced Cryoprecipitated Fibrinogen Complex is available for immediate use for up to 5 days when stored liquid; and when stored frozen requires thawing prior to use.

INTERCEPT[®]

Pathogen Reduced Cryoprecipitated Fibrinogen Complex

Breakthrough Device for Treating Uncontrolled Bleeding

The ready-to-use INTERCEPT[®] Fibrinogen Complex* is approved specifically for the treatment and control of bleeding, including massive hemorrhage, associated with fibrinogen deficiency.

- Pathogen Reduced Cryoprecipitated Fibrinogen Complex is prepared from the INTERCEPT Blood System for Cryoprecipitation
- Immediate, enriched source of key factors in effective hemostasis¹⁻³
 - » Fibrinogen
 - » von Willebrand Factor
 - » Factor XIII
 - » Other vital clotting proteins



Transfuse With the First Blood Products*

Approved for empirical use

PRODUCT	LONG-TERM STORAGE	IMMEDIATE AVAILABILITY	MTP ⁴		
			ROUND 1	ROUND 2	ROUND 3
INTERCEPT[®] Fibrinogen Complex	Frozen ≤ 12 Months	Room Temp ≤ 5 Days*			
... — OR — ...					
Cryoprecipitated AHF⁵	Frozen ≤ 12 Months	Room Temp ≤ 4-6 Hours	Availability delayed due to time to thaw-on-demand, and establishment into later rounds of MTPs ⁴		
Platelets	Room Temp ≤ 5-7 Days	Room Temp ≤ 5-7 Days			
Plasma	Frozen ≤ 12 months	Refrigerated ≤ 5 Days			
RBC	Refrigerated ≤ 42 Days	Refrigerated ≤ 42 Days			

*INTERCEPT Fibrinogen Complex is available for immediate use for up to 5 days when stored liquid; and when stored frozen requires thawing prior to use.

Pathogen Reduction

INTERCEPT® Fibrinogen Complex is produced from plasma treated by the INTERCEPT Blood System.

- Provides broad spectrum transfusion transmitted infection (TTI) risk reduction, including viruses, bacteria, and emerging pathogens^{6,7}

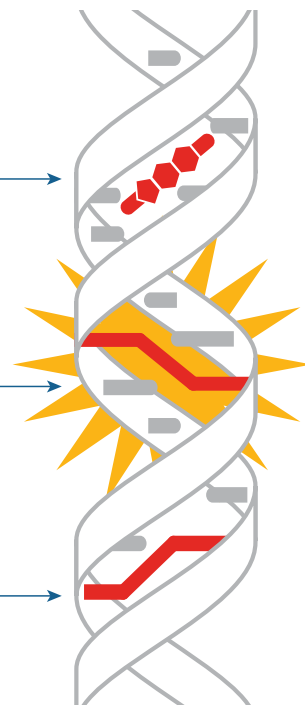
INTERCEPT® treated plasma has 20 years of clinical and post-market surveillance experience

INTERCEPT® Blood System for Plasma Mechanism of Action

Amotosalen Targets
Nucleic Acids

Crosslinks Upon
UVA Illumination

Pathogens
Inactivated



Upon UVA illumination, amotosalen cross-links nucleic acids to block replication and inactivates pathogens

Improve Order-to-Transfusion Times



TRANSFUSION READY

- Thawed in advance
- Ready-to-deploy with first blood products
- No additional labelling or preparation required



CONVENIENT DOSING

- Single-use hemostatic doses
- Pre-pooled high doses available*



MINIMIZE WASTE

- 5-day post-thaw shelf life
- Return to inventory if not transfused
- Broad spectrum TTI risk reduction

*Pooling facilitates transfusion of high doses of fibrinogen from a single container.
Fibrinogen content of Fibrinogen Complex depends on donor plasma fibrinogen levels.

INTERCEPT[®]

Pathogen Reduced Cryoprecipitated Fibrinogen Complex

Availability

Ready for Immediate Use!

Once thawed, may be stored at room temperature for up to 5 days.

- Provided in single-use containers
- Components may be purchased as single or pre-pooled units

Catalog #	Description	Average Fibrinogen (mg)*
FC10	Pooled Fibrinogen Complex 1.0, Cryoprecipitated, Psoralen Treated	740
FC15	Pooled Fibrinogen Complex 1.5, Cryoprecipitated, Psoralen Treated	1,457
FC20	Pooled Fibrinogen Complex 2.0, Cryoprecipitated, Psoralen Treated	2,220**
FC30	Pooled Fibrinogen Complex 3.0, Cryoprecipitated, Psoralen Treated	3,117
FC40	Pooled Fibrinogen Complex 4.0, Cryoprecipitated, Psoralen Treated	3,700**

* Fibrinogen content depends on donor plasma fibrinogen levels

** Calculated based on pooling of FC10

Intended Use

- Treatment and control of bleeding, including massive hemorrhage, associated with fibrinogen deficiency
- Control of bleeding when recombinant and/or specific virally inactivated preparations of factor XIII or von Willebrand factor (vWF) are not available
- Second-line therapy for von Willebrand disease (vWD)
- Control of uremic bleeding after other treatment modalities have failed

Limitations of Use: Pathogen Reduced Cryoprecipitated Fibrinogen Complex should not be used for replacement of factor VIII.



Hemorrhage is a Leading Cause of Preventable Death⁸

Trauma is the
#1
cause of death
in adults <45 years old⁹

Of trauma deaths
~40%
from hemorrhage⁹

Hours until death
~1.6
from exsanguination*¹⁰

Hemorrhage increases mortality in:



Trauma^{11,12}



Postpartum Hemorrhage¹³



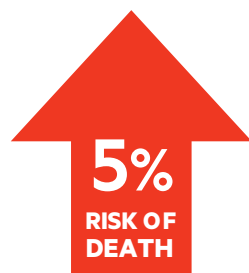
Cardiac (CV) Surgery¹⁴



Combat^{15,16}



=



DELAY INCREASES MORTALITY¹⁷

Faster is Better¹⁷

Massive Transfusion Protocols (MTP) were developed to improve hemorrhage outcomes by delivering blood products quickly.

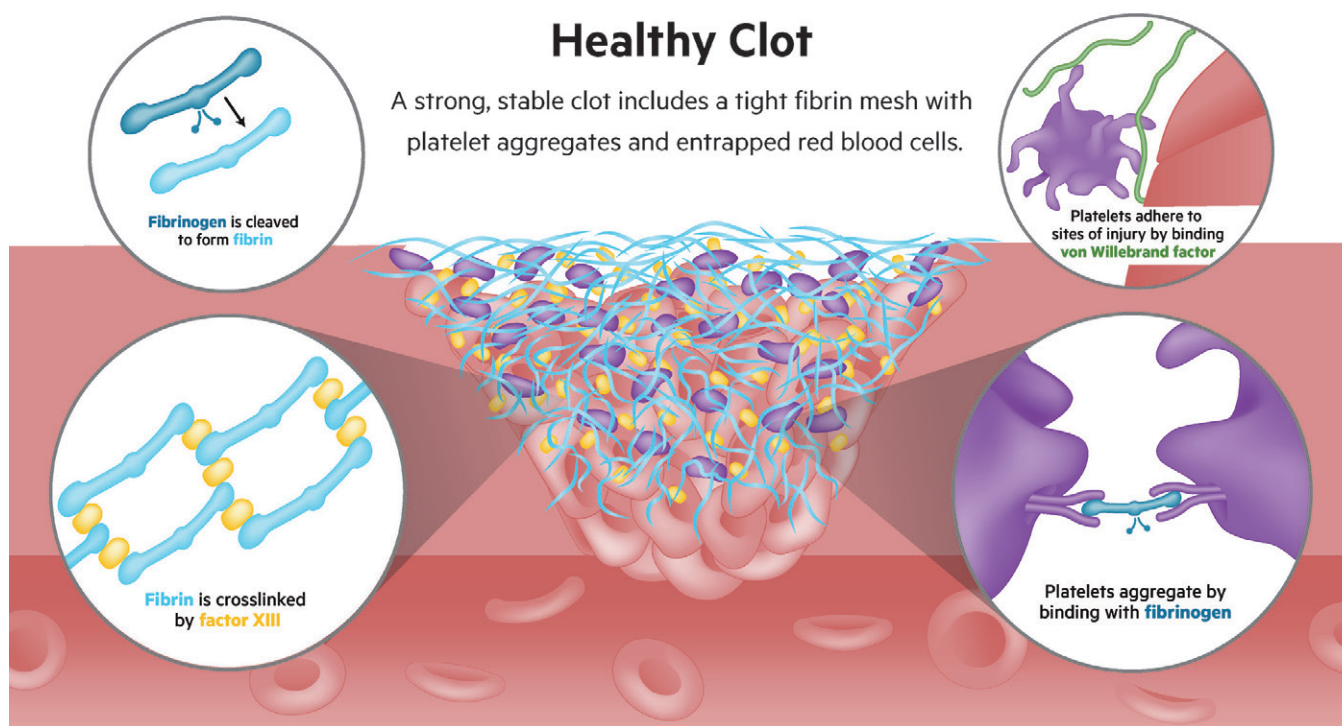
- Every minute of delay between the activation of an MTP and the arrival of the first blood products, results in a 5% increase in the odds of mortality.
- Timely delivery of blood products is an important metric, similar to “door-to-balloon” time.

**Severe loss of blood*

Effective Treatment: Restoring Fibrinogen & Other Clotting Factors

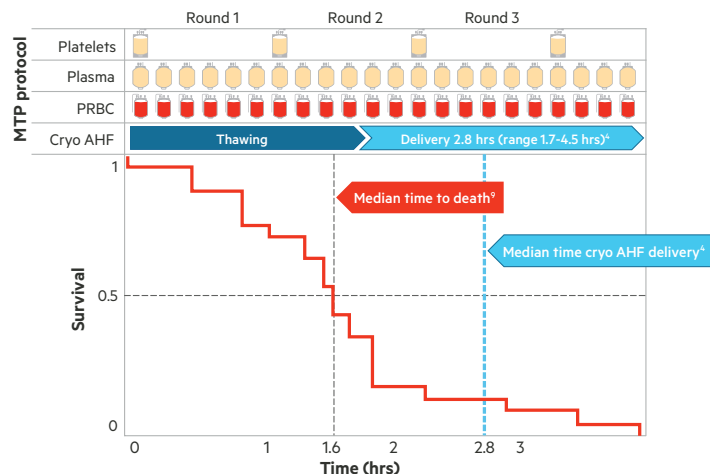
Early fibrinogen supplementation restores clot strength, reduces blood loss, and lowers mortality¹²

- Fibrinogen is the most critical protein needed for stable clot formation and hemostasis^{12,18}
- Factor XIII adds strength and stability to clot formation^{19,20}



Early delivery of fibrinogen and other vital clotting factors add the clotting strength needed to achieve stable clot formation and restore hemostasis^{12,18}

MTPs Lack Critical Components from the Start



*Cryoprecipitated Antihemophilic Factor (cryo AHF):
source of clotting factors for the treatment of
coagulopathy in hemorrhage^{5,19}*

In >75% of U.S. exsanguination cases, cryo AHF arrives too late to be medically efficacious²²

Cryoprecipitated AHF Inventory Challenges



LONG WAIT TIMES

15 min – 2.8 hours^{4,5}

Stored frozen and typically thawed in round 2 or 3 of MTP²³



SHORT SHELF LIFE

4 – 6 hours²⁴

Post thaw due in part to infectious risk



HIGH WASTAGE RATES

7 – 33%²³

Thawed cryo AHF is wasted

Contraindications

Contraindicated for preparation of blood components intended for patients with a history of hypersensitivity reaction to amotosalen or other psoralens.

Contraindicated for preparation of blood components intended for neonatal patients treated with phototherapy devices that emit a peak energy wavelength less than 425 nm, or have a lower bound of the emission bandwidth <375 nm, due to the potential for erythema resulting from interaction between ultraviolet light and amotosalen.

Warnings and Precautions

Only the INTERCEPT Blood System for Cryoprecipitation is approved for use to produce Pathogen Reduced Cryoprecipitated Fibrinogen Complex.

For management of patients with vWD or factor XIII deficiency, Pathogen Reduced Cryoprecipitated Fibrinogen Complex should not be used if recombinant or specific virally-inactivated factor preparations are available. In emergent situations, if recombinant or specific virally-inactivated factor preparations are not available, Pathogen Reduced Cryoprecipitated Fibrinogen Complex may be administered.

References

1. Levy JH, Welsby I, et al. Fibrinogen as a therapeutic target for bleeding: a review of critical levels and replacement therapy. *Transfusion* 2014;54(5):1389-1405; quiz 1388.
2. Schroeder V, Kohler HP. Factor XIII: Structure and Function. *Semin Thromb Hemost* 2016;42(4):422-428.
3. Peyvandi, F. Diagnosis and management of patients with von Willebrand's disease in Italy: an Expert Meeting Report. *Blood Transfus* 2018;16(4):326-328.
4. Holcomb JB, Fox EE, Zhang X, et al. Cryoprecipitate Use in the Prospective Observational Multicenter Major Trauma Transfusion study (PROMMTT). *The journal of trauma and acute care surgery* 2013;75:S31-S9.
5. AABB. Circular of Information for the Use of Human Blood and Blood Components. Bethesda, MD: AABB; 2017.
6. INTERCEPT Blood System for Plasma [Package Insert]. Concord, CA, Cerus Corporation. May 1, 2020.
7. INTERCEPT Blood System for Cryoprecipitation for the manufacturing of Pathogen Reduced Cryoprecipitated Fibrinogen Complex [Package Insert]. Concord, CA. Cerus Corporation. January 20, 2021.
8. Drake SA, Holcomb JB, Yang Y, et al. Establishing a Regional Trauma Preventable/Potentially Preventable Death Rate. *Annals of surgery* 2018.
9. Callcut RA, Kornblith LZ, Conroy AS, et al. The why and how our trauma patients die: A prospective Multicenter Western Trauma Association study. *The journal of trauma and acute care surgery* 2019;86:864-70.
10. Cripps MW, Kutcher ME, Daley A, et al. Cause and timing of death in massively transfused trauma patients. *The journal of trauma and acute care surgery* 2013;75:S255-62.
11. Stanworth SJ, Davenport R, Curry N, et al. Mortality from trauma haemorrhage and opportunities for improvement in transfusion practice. *The British journal of surgery* 2016;103:357-65.
12. Rourke C, Curry N, Khan S, et al. Fibrinogen levels during trauma hemorrhage, response to replacement therapy, and association with patient outcomes. *Journal of thrombosis and haemostasis:JTH* 2012;10:1342-51.
13. Butwick AJ, Goodnough LT. Transfusion and coagulation management in major obstetric hemorrhage. *Current opinion in anaesthesiology* 2015;28:275-84.
14. Görlinger K, Shore-Lesserson L, Dirkmann D, Hanke AA, Rahe-Meyer N, Tanaka KA. Management of hemorrhage in cardiothoracic surgery. *J Cardiothorac Vasc Anesth* 2013;27:S20-34.
15. Stinger HK, Spinella PC, Perkins JG, et al. *J Trauma*. 2008;64:S79-S85.
16. Joint Trauma System, Damage Control Resuscitation Clinical Practice Guideline, 12 July 2019. [https://jts.amedd.army.mil/assets/docs/cpgs/JTS_Clinical_Practice_Guidelines_\(CPGs\)/Damage_Control_Resuscitation_12_Jul_2019_ID18.pdf](https://jts.amedd.army.mil/assets/docs/cpgs/JTS_Clinical_Practice_Guidelines_(CPGs)/Damage_Control_Resuscitation_12_Jul_2019_ID18.pdf). Accessed Jul 2020.
17. Meyer DE, Vincent LE, Fox EE, et al. Every minute counts: Time to delivery of initial massive transfusion cooler and its impact on mortality. *The journal of trauma and acute care surgery* 2017;83:19-24.
18. Levy JH, Szlam F, Tanaka KA, Sniecinski RM. Fibrinogen and hemostasis: a primary hemostatic target for the management of acquired bleeding. *Anesthesia and analgesia* 2012;114:261-74.
19. von Rappard S, Hinnen C, Lussmann R, Rechsteiner M, Korte W. Factor XIII Deficiency and Thrombocytopenia Are Frequent Modulators of Postoperative Clot Firmness in a Surgical Intensive Care Unit. *Transfus Med Hemother* 2017;44:85-92.
20. Rijken DC, Uitte de Willige S. Inhibition of Fibrinolysis by Coagulation Factor XIII. *Biomed Res Int* 2017;2017:1209676.
21. Chapin JC, Hajjar KA. Fibrinolysis and the control of blood coagulation. *Blood reviews* 2015;29:17-24.
22. Data on file. Calculation based on references: (2) Cripps et al. 2013 and (19) Holcomb et al. 2013.
23. Dunbar NM, Olson NJ, Szczepiorkowski ZM, et al. Blood component transfusion and wastage rates in the setting of massive transfusion in three regional trauma centers. *Transfusion* 2017;57:45-52.
24. Wagner SJ, Hapip CA, Abel L. Bacterial safety of extended room temperature storage of thawed cryoprecipitate. *Transfusion* 2019;59:3549-50.



GLOBAL HEADQUARTERS | 1220 Concord Avenue | Concord, CA US 94520 | 855.835.3523

www.cerus.com | www.intercept-cryoprecipitation.com

Rx only. There is no pathogen inactivation process that has been shown to eliminate all pathogens. Certain non-enveloped viruses (e.g., hepatitis A virus (HAV), hepatitis E virus (HEV), parvovirus B19 and poliovirus) and *Bacillus cereus* spores have demonstrated resistance to the INTERCEPT process.