

Product Information

Plasma from chicken

Product Number **P 3266**

Storage Temperature 2-8 °C

Product Description

Plasma is the liquid part of the blood and lymphatic fluid, which makes up about half of its volume. Plasma is devoid of cells and, unlike serum, has not clotted.¹ It is prepared from whole blood that is collected with anticoagulants (9:1) and centrifuged to remove cells and cellular debris. The resulting plasma is 0.45 µm filtered and lyophilized from the indicated volume.

This product is prepared from pooled chicken blood. It contains 3.8% trisodium citrate as an anticoagulant. It is tested for clotting, which indicates that the clotting factors in the product are active. However, it is not analyzed to determine whether other enzymes present are native or denatured.

Plasma contains a variety of proteins with diverse functions. The primary functions of the plasma proteins include the maintenance of colloid osmotic pressure, pH, and electrolyte balance; the transport of metal ions, fatty acids, steroids, hormones, and drugs to various organs of the body; use as a source for amino acids for tissue nourishment; hemostasis and the prevention of thrombosis; the regulation of cellular activity and function through hormone signaling; and defense against invasion through the actions of antibodies and complement components.¹ The levels of these plasma proteins can fluctuate based on disease state or metabolic state. However, in healthy animals, the concentrations of most plasma proteins is kept within a relatively constant range, revealing their importance in maintaining the appropriate physiological state and the existence of regulatory systems.

Some of the more common proteins found in plasma are albumin and prealbumin, α_1 -acid glycoprotein, transferrin, lipoproteins (HDL, LDL, and VLDL), immunoglobulins, complement proteins, and coagulation proteins (thrombin, plasminogen, and fibrinogen).² Due to this variety, plasma can be used for numerous applications from lipoprotein analysis to clotting functions.

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

The plasma powder should be reconstituted to the indicated volume with water, yielding a hazy, yellow solution.

Storage/Stability

Solutions are stable for approximately 8 hours on ice. Frozen aliquots will be stable somewhat longer, but will develop insoluble precipitates over time. Frozen solutions are expected to be stable for at least several months in the freezer. Upon thawing of the aliquots, some fibrinogen may come out of the solution. Therefore, upon thawing, it may be necessary to warm the solution to 37 °C to insure as much fibrinogen redissolves as possible.

References

1. The Plasma Proteins, 2nd Ed., Vol. 1, Putnam, F. W., Ed., Academic Press (New York, NY: 1975).
2. Putnam, F. W., The Proteins, Vol. 3, Neurath, H., ed., Academic Press (New York, NY: 1965).

CMH 10/03

Sigma brand products are sold through Sigma-Aldrich, Inc.

Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see reverse side of the invoice or packing slip.