

Gc-globulin (Actin-free) ELISA Kit

For human serum or plasma

Assess serum Gc-globulin levels to obtain important information about prognosis and progress in patients with:

- Multiple trauma
- Fulminant liver failure
- Acetaminophen overdose

Objective results in less than 1 hour



ANTIBODYSHOP

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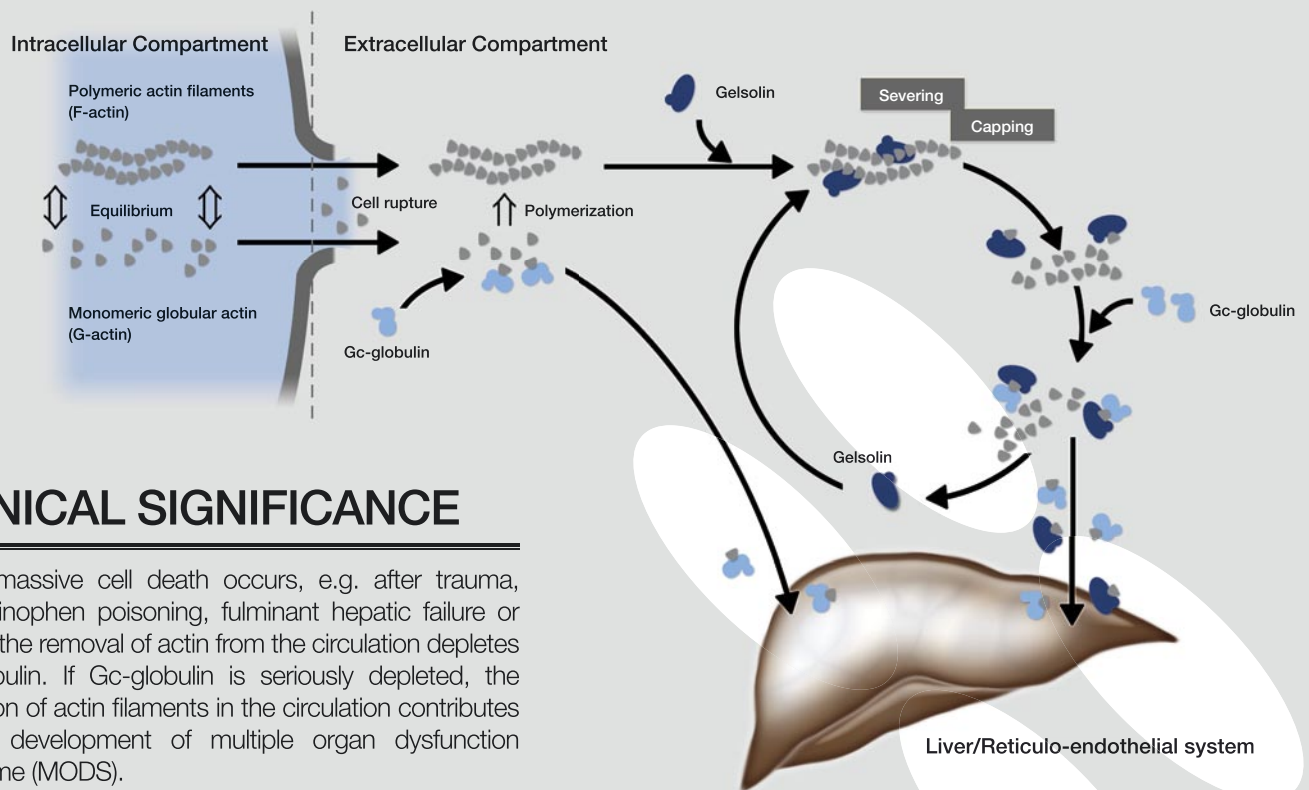
SCIENTIFIC BACKGROUND

GC-GLOBULIN* – A KEY PLAYER IN THE EXTRA-CELLULAR ACTIN SCAVENGER SYSTEM

Actin is the most abundant protein in eukaryotic cells, where it plays a major role in cell motility and the construction of the cytoskeleton. Inside the cell the polymerization and de-polymerization of actin is strictly regulated. When cells die, actin is released into circulation. Here it forms filaments which may trigger intravascular coagulation if not rapidly removed. The extracellular actin scavenger system (EASS) removes actin from the circulation and counters the formation of intravascular actin filaments.

In the EASS the actin filaments are depolymerized by gelsolin and the monomeric actin is strongly bound by Gc-globulin. The actin/Gc-globulin complex is then cleared from the circulation by the reticulo-endothelial system. This process consumes Gc-globulin (see Figure 1).

Figure 1: The extracellular actin scavenger system



CLINICAL SIGNIFICANCE

When massive cell death occurs, e.g. after trauma, acetaminophen poisoning, fulminant hepatic failure or sepsis, the removal of actin from the circulation depletes Gc-globulin. If Gc-globulin is seriously depleted, the formation of actin filaments in the circulation contributes to the development of multiple organ dysfunction syndrome (MODS).

SERUM LEVEL OF ACTIN-FREE GC-GLOBULIN: MARKER FOR PROGNOSIS AND RESPONSE TO THERAPY

The concentration of actin-free Gc-globulin is the most relevant indicator of the patient's actin-scavenger reserve, i.e. the ability to clear further actin from the circulation.

Therefore, low levels of actin-free Gc-globulin can act as a prognostic marker of survival after massive actin release.

The Gc-globulin (Actin free) ELISA kit measures actin-free Gc-globulin levels in less than one hour. This makes it ideal both for prognostic use and for monitoring the response to treatment.

The kit introduces a notable advance by providing an objective evaluation that correlates closely with established but more subjective clinical scoring systems such as TRISS in trauma and the King's College Hospital criteria in fulminant hepatic failure.

*Gc-globulin is an abbreviation of group-specific component globulin, also known as vitamin D-binding protein (DBP)

GC-GLOBULIN (ACTIN-FREE) ELISA KIT



KIT FEATURES

- Objective results within one hour
- Highly reproducible and easy to use
 - Ready-to-use calibrators and working solutions
 - Pre-coated ELISA strips
 - All incubations performed at room temperature
- Measures Gc-globulin in both serum and plasma
- Detection range
 - At the recommended sample dilution, the assay range is 5 – 500 mg/L, covering values from normal to critically ill patients
- Easy storage
 - All components are stored at 4°C
- The kit is CE IVD-marked
- Sandwich ELISA methodology
- Kit size
 - 96 wells (12 eight-well strips)

KIT COMPONENTS

Item	Contents	Quantity
1	12 strips of 8 Microwells each coated with Gc-globulin antibody (96 wells) + frame (RTU)	1 plate
2	3X Sample Diluent Concentrate	1 x 60 mL
3	Gc-globulin Calibrators (RTU). 0, 1, 2, 5, 10, 20, 50, 100 ng/mL	8 x 1 mL
4	25X Wash Solution Concentrate	1 x 30 mL
5	HRP-conjugated Gc-globulin (Actin-free) Antibody (RTU)	1 x 7 mL
6	TMB Substrate (RTU)	1 x 12 mL
7	Stop Solution (RTU)	1 x 16 mL
8	Polypropylene U-microwell plate (96 wells). For sample preparation	1 plate

RTU: Ready-to-use

ASSAY PROCEDURE

Y Gc-globulin Antibody



Plates are pre-coated with the primary Gc-globulin antibody. The coat antibody will capture Gc-globulin with or without actin bound. The plates are ready-to-use.

Ⓜ HRP-conjugated Gc-globulin Antibody



HRP-conjugated monoclonal detection antibody is added to each well

+

Ⓜ Gc-globulin



Diluted serum samples and calibrators are added to each well.

The detection antibody only binds to actin-free Gc-globulin

Incubate solution for 30 minutes



Ⓜ Substrate (TMB)



Substrate is added to each well.



Stop solution

Stop solution is added to each well after 10 minutes.

Quantitative results are obtained by measuring the absorbance at 450 nm

Total assay time less than 1 hour

ORDERING INFORMATION

Code No.	Product description
KIT 034	Gc-globulin (Actin-free) ELISA Kit, C €

REFERENCES

Liver failure

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Trauma/Sepsis

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