

Name:	Rat Serum
Catalog Number:	NRS
Sizes Available:	1.0 mL/vial
Concentration:	>55 mg protein/mL (see Certificate of Analysis for actual conc.)
Form:	Frozen liquid
Activity:	>150 CP50 Units/mL active classical pathway >50 AP50 Units/mL active alternative pathway Lot specific titers provided in the Certificate of Analysis
Buffer:	None
Preservative:	None, 0.22 µm filtered. Not certified as sterile.
Storage:	-70°C or below. Minimize freeze/thaw cycles.
Source:	Normal rat blood.
Precautions:	Use normal precautions for handling animal blood products.
Origin:	Manufactured in the USA.

General Description

Normal rat serum is tested for complement activity and certified to possess functional classical and alternative pathways of activation. NRS was prepared from male mixed breed rats. Each sample of blood was collected without anticoagulants and after coagulation the liquid portion was separated by centrifugation. Serum was filtered through a 0.22 µm filter, aliquoted and frozen at -80°C.

All testing for complement activity was performed on the subsequently thawed samples to guarantee that the functional activity reported is what customers will receive when the samples are thawed. Complement activity is stable for several years if NRS is stored at -70°C or below continuously. Rat complement is not as stable as human complement in normal human serum and a significant degradation of activity may be observed if the NRS serum is allowed to remain thawed for more than a few hours even if it is kept on ice. In addition, a significant loss of activity may occur following additional freeze thaw cycles.

Physical Characteristics

NRS is a clear, straw-colored liquid containing all proteins of normal rat serum. Although the NRS is filtered through 0.22 µm sterile filters and is aliquoted into sterile containers, it is not packed under strictly sterile conditions and is therefore not certified as sterile.

Function

NRS is tested for classical pathway hemolytic activity using antibody-sensitized sheep erythrocytes (CompTech #B200) and for alternative pathway function using rabbit erythrocytes (CompTech #B300). The Certificate of Analysis provided with each lot gives a description of the assays and specific titers for the serum.

Assays

The unit of classical pathway activity is the CH50. One CH50 unit is defined as the input of NRS yielding 50% lysis of 1×10^8 EA (CompTech #B200) when incubated for 60 minutes at 37°C in a total reaction volume of 1.5 mL GVB++.

The unit of alternative pathway activity is the AP50. One AP50 unit is defined as the input of NRS yielding 50% lysis of 1.5×10^7 rabbit erythrocytes (Er, CompTech #B300) when incubated for 30 minutes at 37°C in a total reaction volume of 75 μ L GVB^o containing a final Mg-EGTA concentration of 13 mM. The rat alternative pathway is normally approximately 3-fold less active (fewer AP50 units per mL) than that in normal human complement standard serum.

Applications

NRS is used to provide a source of rat complement for hemolytic assays. This NRS complement serum has been pre-tested and certified to exhibit fully functional classical and alternative pathway complement activation.

Precautions/Toxicity/Hazards

The source is rat blood, therefore precautions appropriate for handling any animal blood-derived product must be used.

MSDS is available upon request.