Name:	**Factor B-Dpl**
Catalog Number:	**A335**
Sizes Available:	1.0 mL/vial
Concentration:	>50 mg protein/mL (see Certificate of Analysis for actual conc.)
Form:	Frozen liquid
Activity:	>80% versus NHS standard after reconstitution with factor B
Purity:	No factor B detectable by immunodiffusion
Buffer:	10 mM sodium phosphate, 145 mM NaCl, pH 7.3
Preservative:	None, 0.22 µm filtered
Storage:	-70°C or below. Minimize freeze/thaw cycles.
Source:	Normal human serum (shown by certified tests to be negative for HBsAg and for antibodies to HCV, HIV-1 and HIV-II).
Precautions:	Use normal precautions for handling human blood products.
Origin:	Manufactured in the USA.

General Description

Normal human serum depleted of factor B by immunoaffinity chromatography. The product is tested for the absence of factor B by functional assays for alternative pathway activity and for factor B protein by double immunodiffusion. Factor B-Dpl is certified to possess a functional alternative pathway for complement activation after reconstitution with 200 µg factor B/mL (Morgan, B.P. (2000); Dodds, A.W. and Sim, R.B. (1997)). It is tested for and certified to contain functional classical pathway indicating that all other complement components necessary for classical and alternative pathway activation are present except for factor B

Physical Characteristics & Structure

Factor B-Dpl is supplied as a clear, straw-colored liquid containing all proteins of normal human serum except complement factor B.

Function

Factor B-Dpl serum is functionally deficient in alternative pathway activity, but it possesses a fully functional classical pathway. It is tested for classical pathway activity with assays using antibody-sensitized sheep erythrocytes (CompTech #B200) and for alternative pathway function using rabbit erythrocytes (CompTech #B300). The depleted serum is reconstituted with 200 µg/mL factor B (CompTech #A135) and retested to verify that a fully functional alternative pathway is restored. The Certificate of Analysis provided with each lot gives a description of the assays and specific titers for the depleted and reconstituted sera compared to normal human serum.

Assays

The unit of classical pathway activity is the CH50 and the unit of alternative pathway activity is the AP50. Similarly, the unit used to quantitate the activity of factor B is the BH50. A BH50 unit is the amount of functional factor B needed to lyse 50% of 1.5×10^7 rabbit erythrocytes (CompTech #B300)) when that amount of factor B (CompTech #A135) is incubated with the recommended volume of Factor B-Dpl in GVB^o (CompTech #B103) containing MgEGTA (CompTech #B106) in a total volume of 75 µL for 30 min at 37°C. Various MgEGTA concentrations have been reported from 3

mM to 13 mM. The amount of factor B yielding one unit of activity indicates the sensitivity of the assay for factor B which is typically less than 0.5 µg factor B with 15 µL Factor B-Dpl. See the Certificate of Analysis for lot specific values.

Lectin pathway activity is not routinely tested or certified, but it would be expected to be active.

Applications

Factor B-Dpl is used to assay factor B activity in samples and to supply a serum unable to activate the alternative pathway of complement.

Precautions/Toxicity/Hazards

The source is human serum, therefore precautions appropriate for handling any blood-derived product must be used even though the source was shown by certified tests to be negative for HBsAg and for antibodies to HCV, HIV-1 and HIV-II.

Hazard Code: B WGK Germany 3

MSDS is available upon request.

References

Dodds, A.W. and Sim, R.B. editors (1997) Complement. A Practical Approach (ISBN 019963539) Oxford University Press, Oxford.

Morgan, B.P. ed. (2000) Complement Methods and Protocols. (ISBN 0-89603-654-5) Humana Press, Inc., Totowa, New Jersey.

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