

Product Information

Hexadimethrine bromide

Catalog Numbers **107689** and **H9268**

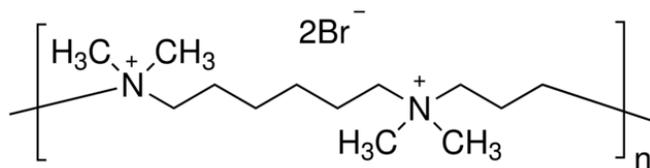
Storage Temperature 2–8 °C

Technical Bulletin AL-118

TECHNICAL BULLETIN

CAS RN 28728-55-4

Synonyms: 1,5-Dimethyl-1,5-diazaundecamethylene polymethobromide, Polybrene® is a commercial preparation of hexadimethrine bromide



Product Description

Hexadimethrine bromide, a positively charged polymer,¹ is a well known anti-heparin agent (heparin antagonist).²⁻⁴ It is commonly used to produce non-specific agglutination of red blood cells, attributed to neutralization of the net negative charge of the red blood cells.⁵ Because of its negative charge, heparin interferes with hexadimethrine bromide-induced red cell aggregation.

It has been reported 7.5 mg of hexadimethrine bromide neutralizes 10 mg of heparin (1,000 USP units) within five minutes after intravenous injection in dogs.²

The coagulant property of hexadimethrine bromide has been utilized in developing an accurate, rapid, and simple method for the assay of heparin activity *in vitro*.⁶ It is the specific neutralizing agent and this assay is a simplification of the conventional "thrombin time".

A study of the erythrocyte aggregating properties of hexadimethrine bromide showed it was possible to predict MN phenotypes with 97% accuracy.⁷

Small amounts of hexadimethrine bromide were found to greatly enhance the degradation of peptides during automated sequential analysis.^{8,9} The addition enhances the hydrophilicity of PVDF membranes,¹⁰ and reduces mechanical loss of material during sequencing.^{8,9} Sequa-brene™ (Catalog Number S2667) is a product formulated for protein sequencing.

The polycationic hexadimethrine bromide can be used to transfect mammalian cells with DNA and to increase the efficiency of lipofection transfections. It is used in transfections to introduce low molecular mass DNA (e.g., plasmid DNA) into cell lines such as CHO cells that are relatively resistant to transfection by other methods such as calcium phosphate coprecipitation.¹¹⁻¹³ Its use compared to protamine sulfate in similar application has been reported.¹⁴

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

This product is soluble in water up to 10%. It remains active in solution and when autoclaved.

Stock solutions in 0.9% NaCl at 1 mg/mL remain active at least one year stored at 2–8 °C.⁷

Storage/Stability

The product is hygroscopic. Store at 2–8 °C, protected from moisture.

References

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