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## Product Data Sheet

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Product Name: F9 Human  
 Cat. No.: GP23440  
 Batch No.: 1

### Product Data

Purity	>98%	Source	Human Plasma.
Physical Appearance	solid	Shipping Condition	Shipped at Room temp.
Synonyms	Coagulation factor IX; EC 3.4.21.22; Christmas factor; Plasma thromboplastin component; PTC; F9; FIX; HEMB; MGC129641; MGC129642; GLA domain; Factor IX.		
Solubility	It is recommended to reconstitute the lyophilized 100U Factor-IX in sterile 100?l of 18MΩ-cm H <sub>2</sub> O, which can then be further diluted to other aqueous solutions.		
Formulation	The Factor-IX was lyophilized from a sterile solution containing 20mM Tris-HCl pH-7.4, 0.1M NaCl and 1mM Benzamidine.		

### Introduction

Human Factor IX also called Christmas-Factor is a glycoprotein, which is synthesized in the liver and belongs to the serine proteases system and is part of the S1 peptidase family. Lack of Factor-IX causes Hemophilia-B meaning Christmas Disease. Factor-IX has a N-terminus region which contains 12xGla residues which assist the calcium dependent binding of Factor-IX to the phospholipid surface. Factor-IX is activated by either factor XIa or the factor VIIa/tissue factor/phospholipid complex. Cleavage yields the intermediate IXa, which is subsequently converted to the fully active form IXab. Factor-IX binds initially to exosites on the factor XIa heavy chain, followed by interaction at the active site with subsequent bond cleavage. Coagulation factor IX is activated by interaction with the erythrocyte membrane, causing intrinsic coagulation. Chaperones & lectins act simultaneously to guarantee the proper folding of Factor-IX and the retention of mutant molecules. Human Factor IX, activated by either the Contact or Tissue Factor Pathway, is responsible for the activation of Factor X to Xa.

### Biological Activity

The activity per mg was tested and found to be 306.5PEU/mg.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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### Stability

Lyophilized Factor-IX although stable at room temperature for 3 weeks, should be stored desiccated below  $-18^{\circ}\text{C}$ . Upon reconstitution Factor-IX should be stored at  $4^{\circ}\text{C}$  between 2-7 days and for future use below  $-18^{\circ}\text{C}$ . Please prevent freeze-thaw cycles.

### Background

Human Factor-IX produced from fresh frozen human plasma is a glycosylated polypeptide chain having a molecular mass of 56 kDa.

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