

**\*\*REPRESENTATIVE DATASHEET\*\***

## Sheep anti-human Factor IX (FIX)

Whole IgG from antiserum

10 mg

**Product #:** SAFIX-IG

**Lot #:** XXXX

**Expiry date:** XXXX

Store at -10 to -20°C

1348 Sandhill Drive, Ancaster, Ontario, Canada L9G 4V5  
905-304-9896 • 800-903-6020 • fax 905-304-9897

For Research Use Only.

Not for use in diagnostic procedures.

## Description of Factor IX

Factor IX (FIX, Christmas Factor) is a vitamin K-dependent glycoprotein produced in the liver. Plasma concentration of FIX is normally around 5 µg/ml (87 nM) in plasma. The biological importance of FIX is demonstrated in Haemophilia B (Christmas disease), an X-linked congenital bleeding disease resulting from a quantitative (low activity and low antigen) or qualitative (low activity, normal antigen) defect in FIX function.

In its proenzyme or zymogen form FIX is a single chain molecule of 55,000 daltons. It contains two EGF-like domains and an amino-terminal domain containing 12 γ-carboxy-glutamic acid (Gla) residues. These Gla residues allow FIX to bind divalent metal ions and participate in calcium-dependent binding interactions. The activation of FIX occurs by limited proteolysis in the presence of calcium by activated factor XI (FXI<sup>a</sup>) and/or by a complex of VII<sup>a</sup>/tissue factor/phospholipid and activated Factor X between residues Arg<sup>146</sup>-Ala<sup>147</sup> and between Arg<sup>180</sup>-Val<sup>181</sup>. The terminal activated product in either case is FIX<sup>a</sup><sub>b</sub>, a two-chain enzyme consisting of a heavy chain (28,000 daltons), a light chain (18,000 daltons) and an activation peptide product of 11,000 daltons. FIX can also be cleaved into inactive products by thrombin and by elastase.

The activity of FIX<sup>a</sup><sub>b</sub> in plasma is inhibited by antithrombin and this inhibition is accelerated 1000-fold in the presence of optimal concentrations of heparin <sup>1-3</sup>.

## REFERENCES and REVIEWS

1. Lawson, JH, Mann KG; Cooperative Activation of Human F.IX by the Human Extrinsic Pathway of Coagulation; JBC 266 pp11317-11327, 10991.
2. Enfield DL, Thompson AR; Cleavage and Activation of Factor IX by Serine Proteases; Blood 64, pp 821-831, 1984.
3. Limentani SA, Furie BC, Furie B, in **Hemostasis and Thrombosis**, 3<sup>rd</sup> Edition, eds. RW Colman, J Hirsh, VJ Marder and EW Salzman, pp. 94-108, J.B. Lippincott Co., Philadelphia PA, USA, 1994.

## Product Specifications

### Description:

Vial containing XXXX ml of whole IgG representing approximately 1 ml of antiserum. Total protein is 10 mg.

### Format:

Whole IgG, clear liquid.

### Host Animal:

Sheep

### Immunogen:

Human Factor IX purified from plasma.

### Concentration:

IgG concentration is XXXX mg/ml, determined by absorbance using an extinction coefficient (E<sup>1%<sub>280</sub></sup>) of 13.4.

### Buffer:

10 mM HEPES, pH 7.4, 150 mM NaCl, 50% (v/v) glycerol.

### Storage:

Store between -10 and -20°C. Product will become viscous but will not freeze. Avoid storage in frost-free freezers. Keep vial tightly capped. Allow product to warm to room temperature and gently mix before use.

### Specificity:

This antibody is specific for FIX as demonstrated by immunoelectrophoresis and ELISA.

### Applications:

Suitable for use as a source of antibodies to FIX.

### Neutralizing activity:

XXXX Bethesda Units/ml IgG against normal plasma.

One Bethesda unit/ml is defined as the amount of inhibitor that resulted in 50% residual FIX activity after 2 hours at 37°C (Kasper CK *et al*, Thromb Diath Haemorrh **34**:869, 1975).

### Species Cross Reactivity: (immunodiffusion vs. citrated plasma)

Human:	XXXX	Mouse:	XXXX	Rat:	XXXX
Rabbit:	XXXX	Pig:	XXXX	Dog:	XXXX

### Related Products:

Cat #: <b>GAFIX-IG</b>	Goat anti-human FIX, IgG from antiserum
Cat #: <b>GAFIX-AP</b>	Goat anti-human FIX, affinity purified IgG
Cat #: <b>GAFIX-HRP</b>	Goat anti-human FIX, IgG-peroxidase
Cat #: <b>GAFIX-APHRP</b>	Goat anti-human FIX, APiG-peroxidase
Cat #: <b>SAFIX-AP</b>	Sheep anti-human FIX, affinity purified IgG
Cat #: <b>SAFIX-APHRP</b>	Sheep anti-human FIX, APiG-peroxidase
Cat #: <b>FIX-EIA</b>	Paired antibody set for ELISA of FIX, 5 x 96 wells
Cat #: <b>FIX-DP</b>	Human plasma deficient in FIX, immune depleted

Visit our site ([www.affinitybiologicals.com](http://www.affinitybiologicals.com)) for details.

**Limited Warranty:** This product is warranted to perform in accordance with its labeling and literature. Affinity Biologicals Inc. disclaims any implied warranty of merchantability or fitness for any other purposes, and in no event will Affinity Biologicals Inc. be liable for any consequential damages arising out of aforesaid express warranty.

Manufactured in Canada by:  
**AFFINITY BIOLOGICALS INC.**  
1348 Sandhill Drive  
Ancaster ON CANADA L9G 4V5  
Tel: (905) 304-9896  
(800) 903-6020  
Fax: (905) 304-9897  
[info@affinitybiologicals.com](mailto:info@affinitybiologicals.com)