



# Certificate of analysis

Product name: Fondaparinux sodium

Cas number: 114870-03-0

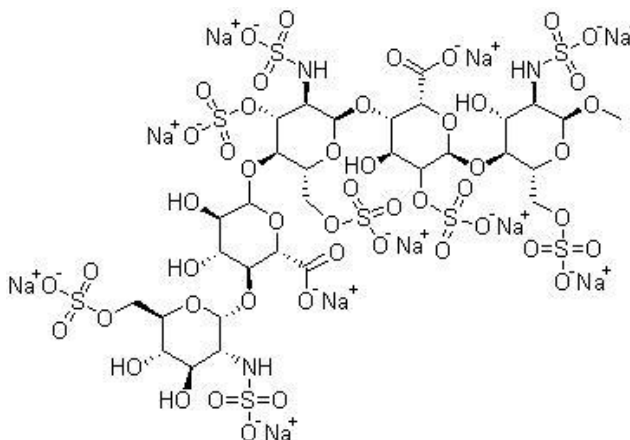
Molecular Formula:  $C_{31}H_{43}N_3Na_{10}O_{49}S_8$

Molecular Weight: 1728.08

Date of production: Jun. 18, 2017

Batch NO: 20170618

Exp Date: Jun. 17, 2019



Chemical structure:

Items	Specifications	Results
Appearance	White to pale yellow powder	Conform
Identification	HPLC: Sample and standard exhibit the same retention time.	Conform
Related substances	RRT 0.93 $\leq$ 0.8% RRT 1.2 $\leq$ 0.6% Unspecified, each $\leq$ 0.3%, total impurities $\leq$ 2.0%.	0.42% 0.39% 0.18% 0.99%
Residual solvent	Methanol $\leq$ 3000ppm Dichloromethane $\leq$ 600ppm Ethyl acetate $\leq$ 5000ppm N-hexane $\leq$ 290ppm Tetrahydrofuran $\leq$ 720ppm Triethylamine $\leq$ 320ppm N,N-dimethylformamide $\leq$ 880ppm	N.D N.D N.D N.D N.D N.D N.D
Water	$\leq$ 15.0% (By Karl Fischer)	5.1%
Specific rotation	+50.0 $^{\circ}$ ~ +65.0 $^{\circ}$	55.93 $^{\circ}$
PH	6.0~8.0	6.9
Impurity	Free Sulfate $\leq$ 0.3%	0.03
	Chloride $\leq$ 1.0%	0.06%
Palladium	$\leq$ 2ppm (By Flame AAS)	N.D
heavy metal	$\leq$ 10ppm	Conform
Assay	95%~103.0%	98.6%

**Conclusion: It complies with the Enterprise Standard.**

Analyst: Zhao

Checker: Liu

Q.C Director: Fang F