

# CERTIFICATE OF ANALYSIS

Product Name:	SpheriCal® Neat Protein Medium Range
Product Number:	PFS-24
Batch Number:	PF2039
CAS Number:	N/A, Dendritic Calibrants (PFS5A, PFS5B, PFS5C, PFS5D)
Contains (molar %):	Dendritic Calibrants: PFS5A (25 %) PFS5B (25 %) PFS5C (25 %) PFS5D (25 %) May contain low molecular weight residues
Formula:	C <sub>806</sub> H <sub>948</sub> O <sub>282</sub> , PFS5A C <sub>1073</sub> H <sub>1260</sub> O <sub>376</sub> , PFS5B C <sub>1340</sub> H <sub>1572</sub> O <sub>470</sub> , PFS5C C <sub>1612</sub> H <sub>1894</sub> O <sub>565</sub> , PFS5D
Molecular Weight (Da):	15148.0, PFS5A 20173.3, PFS5B 25198.5, PFS5C 30309.9, PFS5D
Production Date:	JAN 2019
Latest Quality Control Date:	JAN 2019

TEST	SPECIFICATION	RESULT
APPEARANCE (COLOR)	OFF-WHITE OR TRANSPARENT	TRANSPARENT
APPEARANCE (FORM)	POWDER OR SOLID	SOLID
STRUCTURAL PURITY (MALDI*%)	≥ 98.0 %	OK
MALDI SPECTRUM	CONFORMS TO STRUCTURE	CONFORMS
ERROR PFS5A (MALDI*)	≤ 10 ppm	OK
ERROR PFS5B (MALDI*)	≤ 10 ppm	OK
ERROR PFS5C (MALDI*)	≤ 10 ppm	OK
ERROR PFS5D (MALDI*)	≤ 10 ppm	OK

\*MALDI-TOF analysis was performed with a Bruker Ultraflex in linear mode. Sample spots were prepared from THF solvent

**SpheriCal® 15,000 – 30,000 (Na adduct), average masses:**

15171.0 Da, 20196.3 Da, 25221.5 Da, 30332.9 Da

