



CERTIFICATE OF ANALYSIS

Product Name		Cytidine 5'-diphosphocholine (Citicoline)	
CAS NO.:		987-78-0	
According to		Enterprise Standard	Batch No. 20170703
Package		Fiber drum	Manufacturing date 2017-07-07
Package Size		25kgs/drum	Report date 2017-07-21
Quantity		200kgs	Retest date 2019-07-06
Items		Specification	Results
Appearance		White crystalline powder	Conforms
Identification	HPLC	RT of sample corresponds to that of reference chromatogram.	Conforms
	IR	IR spectrum should comply with the reference spectrum.	Conforms
pH		2.5~3.5	2.7
Clarity and color of solution		Should be clear and colorless	Conforms
Ammonium		$\leq 0.05\%$	Conforms
Heavy metals		$\leq 10\text{ppm}$	Conforms
Arsenic		$\leq 2\text{ppm}$	Conforms
Free phosphoric acid		$\leq 0.1\%$	Conforms
5'-CMP		$\leq 1.0\%$	0.05%
Loss on drying		$\leq 5.0\%$	1.6%
Total plate count		$\leq 1000\text{cfu/g}$	20cfu/g
Fungi count		$\leq 100\text{cfu/g}$	<1cfu/g
E.coli		Not detected	Not detected
Assay (on dry basis)		$\geq 98.0\%$	99.3%
Conclusion: <u>Complies with Enterprise standard.</u>			

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