

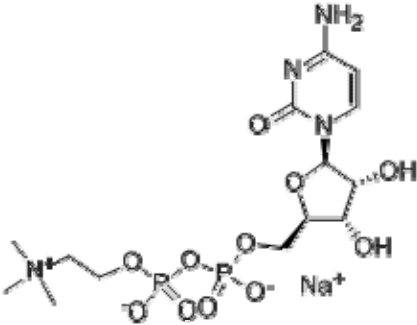
**HANGZHOU DINGYAN CHEM CO.,LTD**

TEL: 86-571-87157530,86465881,88025800, FAX:86-571-87156470

E-Mail:sales@dingyanchem.com,Web: www.dingyanchem.com

CERTIFICATE OF ANALYSIS

NO: DYC031609308

Product name	Citicoline sodium(CP2015 injection grade)
CAS Number	33818-15-4
Molecule Structure	
Molecule Formula	C ₁₄ H ₂₅ N ₄ NaO ₁₁ P ₂
Batch number	20170321
Manufacture Date	2017-03--21
Testing date	2017-03-21

Items	Standard	Result
Description	A white or almost white crystalline powder, odorless	Conforms
Identification	1) Chemical reaction	Positive reaction
	2) The retention time complies to the standard	Conforms
	3) infrared absorption spectrum complies to the standard	Conforms
	4) show sodium flame	Conforms
PH	6.0 -- 7.5	6.4
Clarity, color	Clear, colorless	Conforms
Residual solvents	Limit of methanol ≤0.30%	Undetected
	Limit of ethanol ≤0.50%	0.006%
	Limit of acetone ≤0.50%	Undetected
	Limit of toluene ≤0.089%	Undetected
Related substances	5' -CMP ≤0.30%	0.02%
	Single impurity ≤0.20%	0.04%
	Total Impurity ≤0.70%	0.14%
Limit of chloride	≤0.05%	Conforms
Limit of ammonium salt	≤0.05%	Conforms
Limit of iron salt	≤0.01%	Conforms
Limit of phosphate	≤0.1%	Conforms

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Limit of arsenic salt	≤0.0001%	Conforms
Loss on drying	≤6.0%	0.9%
Heavy Metals	≤5ppm	Conforms
Endotoxin	≤0.30 EU/mg	Conforms
Limit of microbe	Total bacterial count≤800 CFU/g Yeast & Mold≤80 CFU/g E. Coli: Negative	10CFU/g <10CFU/g Undetected
Assay	≥98.00%	99.6%

Hangzhou Dingyan Chem Co., Ltd.
Quality Control
QUALITY CONTROL: *Pals* CHECK: 姚仙娟 INSPECTOR: 刘清风

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