



碧云天生物技术/Beyotime Biotechnology  
订货热线: 400-168-3301或800-8283301  
订货e-mail: order@beyotime.com  
技术咨询: info@beyotime.com  
网址: http://www.beyotime.com

## Sodium orthovanadate (磷酸酯酶抑制剂)

产品编号	产品名称	包装
S1873-2g	Sodium orthovanadate (磷酸酯酶抑制剂)	2g
S1873-10g	Sodium orthovanadate (磷酸酯酶抑制剂)	10g

### 产品简介:

- Sodium orthovanadate, 中文名为正钒酸钠, 是一种常用的磷酸酯酶抑制剂, 可以抑制碱性磷酸酯酶(alkaline phosphatase), 酸性磷酸酯酶(acid phosphatase), 蛋白酪氨酸磷酸酯酶(tyrosine phosphatase)等磷酸酯酶。Sodium orthovanadate也可以抑制Na<sup>+</sup>/K<sup>+</sup> ATPase等ATPase。常用于抑制蛋白去磷酸化或促进蛋白的磷酸化激活, 在提取细胞或组织蛋白时常用于保持蛋白的磷酸化状态。
- Sodium orthovanadate在酸性条件下, 例如pH3.75, 可以形成十钒酸盐(Sodium decavanadate)。Sodium decavanadate可以抑制inositol 1,4,5-trisphosphate-(IP3)诱导的钙离子释放, 并可以抑制IP3和其受体的结合。在过氧化氢存在时, orthovanadate可以转变成pervanadate (过钒酸盐)。
- Sodium orthovanadate分子量为183.91, 分子式为Na<sub>3</sub>VO<sub>4</sub>, CAS Number: 13721-39-6。本产品为进口分装, 纯度>99.9% (trace metals basis)。
- Sodium orthovanadate可溶于水(100mg/ml)。为确保该为单体形式, 可将溶液加热沸腾至半透明, 并调节pH至10左右, 待冷却后分装于塑料瓶中冷冻保存。如Sodium orthovanadate溶液颜色变橙黄色, 为Sodium orthovanadate转化为devanadate, 可调节pH至10并加热沸腾, 即可重新转变为无色的单体钒酸盐。

### 包装清单:

产品编号	产品名称	包装
S1873-2g	Sodium orthovanadate (磷酸酯酶抑制剂)	2g
S1873-10g	Sodium orthovanadate (磷酸酯酶抑制剂)	10g
—	说明书	1份

### 保存条件:

室温保存。配制成溶液后-20°C保存。

### 注意事项:

- 本产品对人体有害, 操作时请小心, 并注意有效防护以避免直接接触人体或吸入体内。
- 本产品仅限于专业人员的科学研究用, 不得用于临床诊断或治疗, 不得用于食品或药品, 不得存放于普通住宅内。
- 为了您的安全和健康, 请穿实验服并戴一次性手套操作。

### 使用说明:

1. Sodium orthovanadate常见使用浓度范围为0.1-2mM。具体的最佳工作浓度请参考相关文献, 或根据实验目的, 以及所培养的特定细胞和组织, 通过实验进行摸索和优化。

### 使用本产品的文献:

1. Xu DQ, Luo Y, Liu Y, Wang J, Zhang B, Xu M, Wang YX, Dong HY, Dong MQ, Zhao PT, Niu W, Liu ML, Gao YQ, Li ZC. Beta-estradiol attenuates hypoxic pulmonary hypertension by stabilizing the expression of p27kip1 in rats. *Respir Res.* 2010 Dec 24;11:182.
2. Ren S, Liu T, Jia C, Qi X, Wang Y. Physiological expression of lens  $\alpha$ -,  $\beta$ -, and  $\gamma$ -crystallins in murine and human corneas. *Mol Vis.* 2010 Dec 15;16:2745-52.
3. Sang J, Yang K, Sun Y, Han Y, Cang H, Chen Y, Shi G, Wang K, Zhou J, Wang X, Yi J. SUMO2 and SUMO3 transcription is differentially regulated by oxidative stress in an Sp1-dependent manner. *Biochem J.* 2011 Apr 15;435(2):489-98.
4. Gong H, Wang Y, Qi X, Wang C, Liu T, Ren S, Wang Y. Differential response of lens crystallins and corneal crystallins in degenerative corneas. *Exp Eye Res.* 2012 Mar;96(1):55-64.
5. Zhang B, Shen M, Xu M, Liu LL, Luo Y, Xu DQ, Wang YX, Liu ML, Liu Y, Dong HY, Zhao PT, Li ZC. Role of macrophage migration inhibitory factor in the proliferation of smooth muscle cell in pulmonary hypertension. *Mediators Inflamm.* 2012;2012:840737.
6. Sun SQ, Jiang CG, Lin Y, Jin YL, Huang PL. Enhanced T cell immunity by B7-H4 downregulation in non-small-cell lung cancer cell lines. *J Int Med Res.* 2012;40(2):497-506.
7. Zhou L, Xue H, Wang Z, Ni J, Yao T, Huang Y, Yu C, Lu L. Angiotensin-(1-7) attenuates high glucose-induced proximal tubular epithelial-to-mesenchymal transition via inhibiting ERK1/2 and p38 phosphorylation. *Life Sci.* 2012 Mar 10;90(11-12):454-62.
8. Hu Y, Cheng P, Xue YX, Liu YH. Glioma cells promote the expression of vascular cell adhesion molecule-1 on bone marrow-derived mesenchymal stem cells: a possible mechanism for their tropism toward gliomas. *J Mol Neurosci.* 2012 Sep;48(1):127-35.
9. Sun Y, Huang J, Song K. BET protein inhibition mitigates acute myocardial infarction damage in rats via the TLR4/TRAF6/NF- $\kappa$ B pathway. *Exp Ther Med.*

2015 Dec;10(6):2319-2324.

10. Yan ZQ, Chen J, Xing GX, Huang JG, Hou XH, Zhang Y. Salidroside prevents cognitive impairment induced by chronic cerebral hypoperfusion in rats. *J Int Med Res.* 2015 Jun;43(3):402-11.
11. Liu M, Dai J, Liu W, Zhao C, Yin ZQ. Overexpression of melanopsin in the retina restores visual function in Royal College of Surgeons rats. *Mol Med Rep.* 2016 Jan;13(1):321-6.
12. Zheng Q, Guan Y, Xia L, Wang Z, Jiang Y, Zhang X, Wang J, Wang G, Pu Y, Xia J, Luo M. Effect of Yi Gong San Decoction on Iron Homeostasis in a Mouse Model of Acute Inflammation. *Evid Based Complement Alternat Med.* 2016;2016:2696480.
13. Zhang Q, Ma S, Liu B, Liu J, Zhu R, Li M. Chrysin induces cell apoptosis via activation of the p53/Bcl-2/caspase-9 pathway in hepatocellular carcinoma cells. *Exp Ther Med.* 2016 Jul;12(1):469-474.
14. Shi H, Zhang A, He Y, Yang M, Gan W. Effects of p53 on aldosterone- induced mesangial cell apoptosis in vivo and in vitro. *Mol Med Rep.* 2016 Jun;13(6):5102-8.
15. Zhang J, Li Y, Duan D, Yao J, Gao K, Fang J. Inhibition of thioredoxin reductase by alantolactone prompts oxidative stress-mediated apoptosis of HeLa cells. *Biochem Pharmacol.* 2016 Feb 15;102:34-44.

Version 2016.12.12