

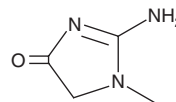
PRODUCT INFORMATION



Creatinine

Item No. 31164

CAS Registry No.: 60-27-5
Formal Name: 2-amino-1,5-dihydro-1-methyl-4H-imidazol-4-one
Synonym: NSC 13123
MF: $C_4H_7N_3O$
FW: 113.1
Purity: $\geq 95\%$
UV/Vis.: λ_{\max} : 236 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥ 4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Creatinine is supplied as a crystalline solid. Aqueous solutions of creatinine can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of creatinine in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Creatinine is the end product of the creatine-creatine phosphate energy shuttle.¹ It is formed by the spontaneous and non-enzymatic cyclization of creatine, as well as from creatine phosphate via a phosphorylcreatine intermediate, in skeletal muscle and brain. Creatinine levels are increased in the urine after exercise in mice and in the plasma of rats fed a high-protein diet for 20 months.^{2,3} Serum creatinine levels have been used to estimate the glomerular filtration rate (GFR) and as a marker of renal dysfunction.⁴

References

1. Wyss, R.H., Karsznia, R., Heinrichs, W.L., *et al.* Inhibition of uterine receptor binding of estradiol by anti-estrogens (clomiphene and CL-868). *J. Clin. Endocrinol. Metab.* **28(12)**, 1824-1828 (1968).
2. Maxwell, A.J., Schauble, E., Bernstein, D., *et al.* Limb blood flow during exercise is dependent on nitric oxide. *Circulation* **98(4)**, 369-374 (1998).
3. Bertani, T., Zoja, C., Abbate, M., *et al.* Age-related nephropathy and proteinuria in rats with intact kidneys exposed to diets with different protein content. *Lab. Invest.* **60(2)**, 196-204 (1989).
4. Delanaye, P., Cavalier, E., and Pottel, H. Serum creatinine: Not so simple! *Nephron* **136(4)**, 302-308 (2017).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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