



Product Information

Sodium pyruvate solution Cell Culture Tested

Product Number **S 8636**
Storage Temperature 2-8 °C

Product Description

Molecular Formula: $C_3H_3NaO_3$ (solid)
Molecular Weight: 110.0 (solid)
CAS Number: 113-24-6 (solid)
Synonyms: α -ketopropionic acid sodium salt,
2-oxopropionic acid sodium salt, pyruvic acid sodium
salt

This product is a 100 mM (11 mg/ml) solution, prepared in cell culture grade water. It is cell culture tested and is suitable for cell culture research at 1 mM (0.11 mg/ml). This product has been analyzed for endotoxins.

Pyruvate, the anion of pyruvic acid, is the end product of the glycolysis pathway, whereby glucose is converted to pyruvate with the production of ATP. In the mitochondria of aerobic organisms, pyruvate is converted to acetyl coenzyme A, which in turn is oxidized completely to CO_2 . When oxygen is not present in sufficient quantities, pyruvate is metabolized to lactate. In anaerobic organisms such as yeast, pyruvate is converted to ethanol. In gluconeogenesis, pyruvate is converted to glucose.¹ Other metabolic fates of pyruvate include its conversion to alanine by transamination and to oxaloacetate by carboxylation.²

Sodium pyruvate is utilized as a component in culture broth and media.^{3,4} The use of sodium pyruvate in Wallen fermentation medium to enhance the conversion of oleic acid to 10-ketostearic acid by *Bacillus sphaericus* has been described.⁵ A protocol that uses sodium pyruvate to establish stably transfected human B cell lines has been published.⁶

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Storage/Stability

This product is stable up to 24 months when stored at 2-8 °C.

Pyruvic acid polymerizes and decomposes upon standing. It is advised to keep containers tightly sealed.

References

1. Biochemistry, 3rd ed., Stryer, L., W. H. Freeman (New York, NY: 1988), pp. 349-394.
2. Textbook of Biochemistry with Clinical Correlations, Devlin, T. M., ed., Wiley-Liss (New York, NY: 1992), p. 248.
3. Geshi, M., et al., Effects of sodium pyruvate in nonserum maturation medium on maturation, fertilization, and subsequent development of bovine oocytes with or without cumulus cells. *Biol. Reprod.*, **63(6)**, 1730-1734 (2000).
4. Jiang, X., and Doyle, M. P., Growth supplements for *Helicobacter pylori*. *J. Clin. Microbiol.*, **38(5)**, 1984-1987 (2000).
5. Kuo, T. M., et al., Conversion of fatty acids by *Bacillus sphaericus*-like organisms. *Curr. Microbiol.*, **45(4)**, 265-271 (2002).
6. Brielmeier, M., et al., Improving stable transfection efficiency: antioxidants dramatically improve the outgrowth of clones under dominant marker selection. *Nucleic Acids Res.*, **26(9)**, 2082-2085 (1998).
7. The Merck Index, 12th ed., Entry# 8205.

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