Sodium pyruvate
Cell Culture Tested
Insect Culture Tested

Product Number  P 5280
Storage Temperature  2-8 °C

Product Description
Molecular Formula:  C₃H₃NaO₃
Molecular Weight:  110.0
CAS Number:  113-24-6
Synonyms:  α-ketopropionic acid sodium salt,  
2-oxopropanoic acid sodium salt, pyruvic acid sodium salt

This product is cell culture tested (0.11 mg/ml) and 
insect cell culture tested (0.2 mg/ml).  It is appropriate 
for use in cell culture and insect cell culture 
applications.

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 CO₂.  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.³⁴ 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.

Preparation Instructions
This product is soluble in water (100 mg/ml), yielding a 
clear, colorless solution.

Storage/Stability
Sterile filtered commercial solutions of sodium 
pyruvate are stable up to 24 months (100 mM, Product 
Number S 8636), when stored at 2-8 °C.

Pyruvic acid polymerizes and decomposes upon 
standing.  It is advised to keep containers tightly 
sealed.⁷

References
2. Textbook of Biochemistry with Clinical 
   Correlations, Devlin, T. M., ed., Wiley-Liss (New 
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 
5. Kuo, T. M., et al., Conversion of fatty acids by 
   efficiency: antioxidants dramatically improve the 
   outgrowth of clones under dominant marker 
   selection.  Nucleic Acids Res., 26(9), 2082-2085 
7. The Merck Index, 12th ed., Entry# 8205.

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