

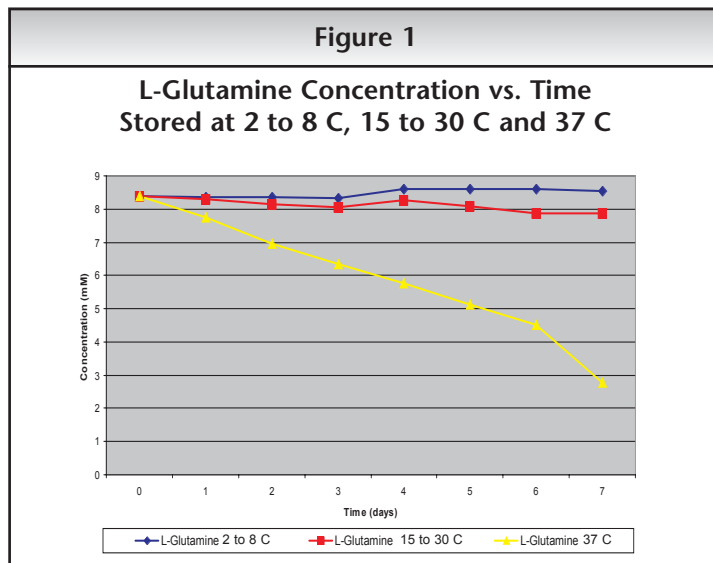
Technical Bulletin

L-Glutamine Stability

There are several amino acids which are crucial components of cell culture media. L-glutamine is one such essential component that can degrade in liquid medium and in culture. Maintaining required levels of L-glutamine in cell culture often requires the repeated supplementation of the medium with additional L-glutamine. This procedure can lead to toxic levels of ammonia build-up as well as potential contamination. Therefore, the stability of L-glutamine has become a key concern in research and industry when seeking to increase culture longevity and density while preventing the compromise of viability and growth.

In the field of biotechnology, it is especially important to maintain the integrity of products that are used in culture and to establish the efficacy of those products under recommended storage conditions. The stability of medium solutions over an extended period of time, when supplemented with labile components such as L-glutamine, is greatly dependent upon the temperature at which those solutions are stored. A study was designed to demonstrate the conditions under which L-glutamine in medium was most susceptible to degradation.

Dulbecco's Modified Eagle's Medium/High Modified (DMEM/High) (Catalog No. 51440) was supplemented with 8 mM concentrations of L-Glutamine Solution 200 mM (Catalog No. 59202) and stored at 2 to 8 C, 15 to 30 C and 37 C. Samples were taken daily from each condition and frozen for amino acid analysis. The level of remaining L-glutamine was measured as a function of time and temperature (see Figure 1).



This investigation provided supporting evidence for the storage of L-glutamine-supplemented medium at 2 to 8 C conditions. These data also demonstrated that medium storage at 37 C can significantly hasten degradation of L-glutamine in medium, and consequently in cell culture.

United States

SAFC Biosciences
13804 W. 107th Street
Lenexa, Kansas 66215
USA
Phone +1 913-469-5580
Toll free-USA 1 800-255-6032
Fax +1 913-469-5584

Europe

SAFC Biosciences
Smeaton Road, West Portway
Andover, Hampshire SP10 3LF
UNITED KINGDOM
Phone +44 (0)1264-333311
Fax +44 (0)1264-332412

Asia Pacific

SAFC Biosciences
18-20 Export Drive
Brooklyn, Victoria 3025
AUSTRALIA
Phone +61 (0)3-9362-4500
Toll free-AUS 1 800-200-404
Fax +61 (0)3-9315-1656

Warranty, Limitation of Remedies

SAFC Biosciences warrants to the purchaser for a period of one year from date of delivery that this product conforms to its specifications. Other terms and conditions of this warranty are contained in SAFC Biosciences' written warranty, a copy of which is available upon request. ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE EXCLUDED. In no case will SAFC Biosciences be liable for any special, incidental, or consequential damages arising out of this product or the use of this product by the customer or any third party based upon breach of warranty, breach of contract, negligence, strict tort, or any other legal theory. SAFC Biosciences expressly disclaims any warranty against claims by any third party by way of infringement or the like. THIS PRODUCT IS INTENDED FOR PURPOSES DESCRIBED ONLY AND IS NOT INTENDED FOR ANY HUMAN OR THERAPEUTIC USE.

Additional Terms and Conditions are contained in the product Catalog, a copy of which is available upon request.

© 2005 SAFC Biosciences

Issued October 2005 XT075
0805

www.safcbiosciences.com

United States

SAFC Biosciences
13804 W. 107th Street
Lenexa, Kansas 66215
USA
Phone +1 913-469-5580
Toll free-USA 1 800-255-6032
Fax +1 913-469-5584

Europe

SAFC Biosciences
Smeaton Road, West Portway
Andover, Hampshire SP10 3LF
UNITED KINGDOM
Phone +44 (0)1264-333311
Fax +44 (0)1264-332412

Asia Pacific

SAFC Biosciences
18-20 Export Drive
Brooklyn, Victoria 3025
AUSTRALIA
Phone +61 (0)3-9362-4500
Toll free-AUS 1 800-200-404
Fax +61 (0)3-9315-1656