Microseed matrix-screening (rMMS): introduction, theory, practice and a new technique for membrane protein crystallization in LCP

Stefan A. Kolek and Patrick D. Shaw Stewart (both Douglas Instruments Ltd, UK), and Bastian Bräuning (Technische Universität München, Germany).

Abstract

Random Microseed Matrix-Screening (rMMS), where seed crystals are added automatically to random crystallization screens, is a significant recent breakthrough in protein crystallization [1]. During the eight years since the method was published, theoretical understanding of the method has increased [2 - 4], and several important practical variations of the basic method have emerged [5, 6]. We will briefly describe some of these variations, including cross-seeding, and introduce a novel method of making LCP seed stocks by scaling up LCP crystallization conditions.


