Overview

Purpose: To develop a human cell-free expression system for the production of stable-isotope-labeled protein standards for quantitative mass spectrometry.

Methods: Hela cell lysates, supplemented with [15N4]L-arginine and [13C6]methionine, were used to generate recombinant proteins using a cell-free translation system. The resulting proteins were then purified and subjected to in vivo and in vitro analysis.

Results: The developed system produced stable-isotope-labeled proteins with high purity and specificity. The resulting protein standards can be used to accurately quantify proteins in complex biological samples.

Conclusion: The development of a human cell-free expression system has the potential to revolutionize the field of protein quantification and provide new tools for the study of protein-protein interactions and post-translational modifications.

References


