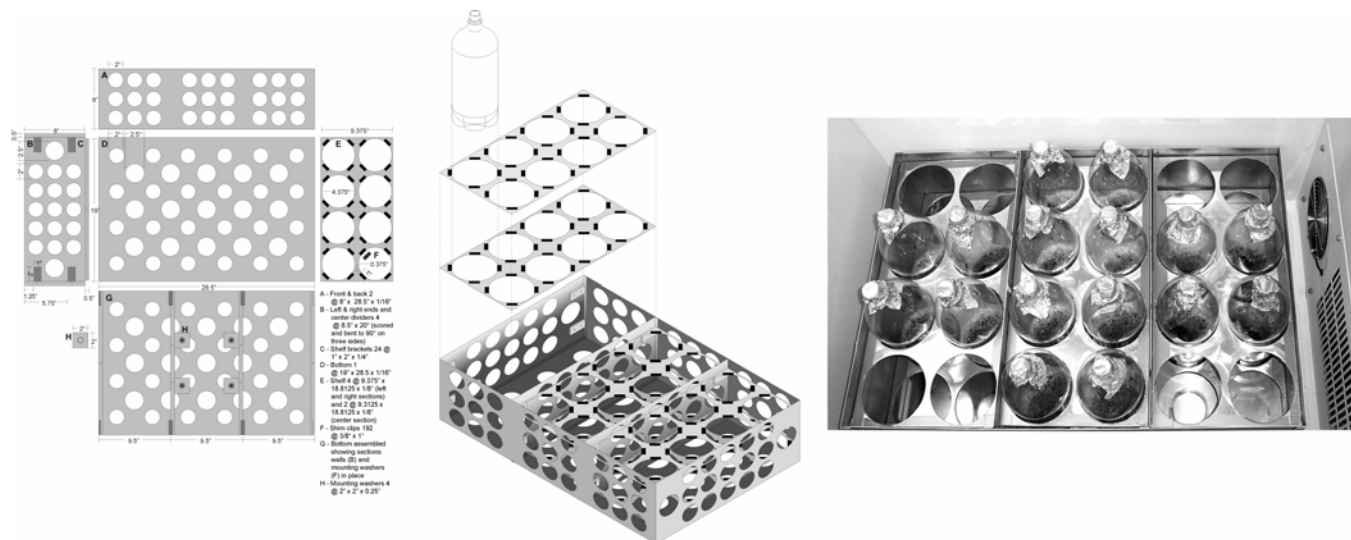


# Center for Eukaryotic Structural Genomics

## Technology Dissemination Report

<b>CESG Tech Report No.</b>	005
<b>Title</b>	Economical Approaches to the Production of [Se-Met]-, [U- <sup>15</sup> N]- and [U <sup>13</sup> C, U <sup>15</sup> N]-Labeled Proteins from <i>Escherichia coli</i> Cells
<b>Research Unit</b>	Large-Scale Protein Production
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### Summary

Protocols are presented for growing culture media for stable isotope labeling in disposable, non-autoclaved two-liter beverage bottles [1], for utilization of self-induction media for [Se-Met]-labeling [2], [U-<sup>15</sup>N]- and [U<sup>13</sup>C, U<sup>15</sup>N]-labeling [3], and for improving yields with self-induction media through supplementation with (5% v/v) Celtone liquid (Spectra Stable Isotopes, Columbia, MD) [4].

### Publication(s):

- [1] Zhao, Q., Frederick, R.O., Seder, K.D., Thao, S., Sreenath, H.K., Peterson, F., Volkman, B.F., Markley, J.L., and Fox, B.G. (2004) Production in two-liter beverage bottles of proteins for NMR structure determination labeled with either <sup>15</sup>N- or <sup>13</sup>C-<sup>15</sup>N. *JSFG* 5(1-2):87-93.
- [2] Sreenath, H.K., Bingman, C.A., Buchan, B.W., Seder, K.D., Burns, B.T., Geetha, H.V., Jeon, W.B., Vojtik, F.C., Aceti, D.J., Frederick, R.O., Phillips, G.N., Jr., and Fox, B.G. (2005) Protocols for production of selenomethionine-labeled proteins in 2-liter polyethylene terephthalate bottles using auto-induction medium. *Protein Expr Purif* 40(2):256-67.
- [3] Tyler, R.C., Sreenath, H., Aceti, D.J., Bingman, C.A., Singh, S., Markley, J.L., and Fox, B.G. (2005) Auto-induction medium for the production of [U-<sup>15</sup>N]- and [U-<sup>13</sup>C, U-<sup>15</sup>N]-labeled proteins for NMR screening and structure determination. *Protein Expr Purif* 40(2):268-78.
- [4] Frederick, R.O., Bergeman, L., Blommel, P.G., Bailey, L.J., Song, J., Meske, L., Bingman, C.A., Ritters, M., Dillon, N., Kunert, J., Yoon, J., Lim, A.-Y., Cassidy, M., Bunge, J., Aceti, D.J., Primm, J.P., Markley, J.L., and Phillips, G.N., Jr., Fox, B.G. (2007) Small-scale, semi-automated purification of eukaryotic proteins for structure determination. *JSFG* 8(4):153-66.

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