ALDRICH Chemistry

ISOGRO® Complex Growth Media

Performance Surpasses the Competition as a Stand-alone Media

- Improve recombinant protein yields up to 80% compared to commercially available complex growth media "B".
- Substantially increase recombinant protein expression levels using ISOGRO versus M9 media.
- Save time by using ISOGRO growth media to shorten production time.
- Express recalcitrant proteins to obtain high resolution NMR structural data.

For optimal results as a stand-alone media, incorporate 10g of ISOGRO per Liter of culture.

Cat. No.	Description	Isotopic Purity
606863	ISOGRO-^{13}C Powder-Growth Medium	99 atom % ^{13}C
616729	ISOGRO-D Powder-Growth Medium	97 atom % D
606871	ISOGRO-^{15}N Powder-Growth Medium	98 atom % ^{15}N
606839	ISOGRO-$^{13}C,^{15}N$ Powder-Growth Medium	99 atom % ^{13}C 98 atom % ^{15}N
608300	ISOGRO-^{15}N,D Powder-Growth Medium	98 atom % ^{15}N 97 atom % D
608297	ISOGRO-$^{13}C,^{15}N$,D Powder-Growth Medium	99 atom % ^{13}C 98 atom % ^{15}N 97 atom % D

Find detailed ISOGRO protocols and references along with additional Biomolecular NMR resources at ***sigma-aldrich.com/bionmr***

Final Yield of Recombinant Protein

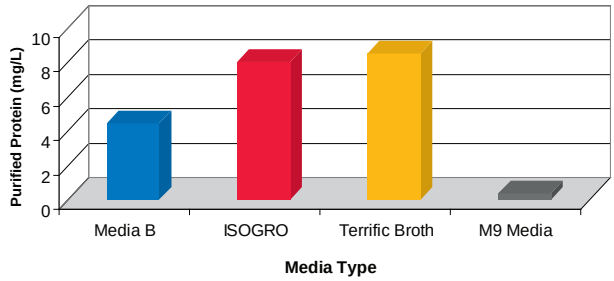

Figure 1. The final yield of purified recombinant protein derived from each liter of culture. Acknowledgement: Data provided by Dr. Ross Overman and Dr. Kevin Embry, AstraZeneca, U.K.

A 39 µM sample of p38 alpha was produced from 50 mL of culture as seen below:

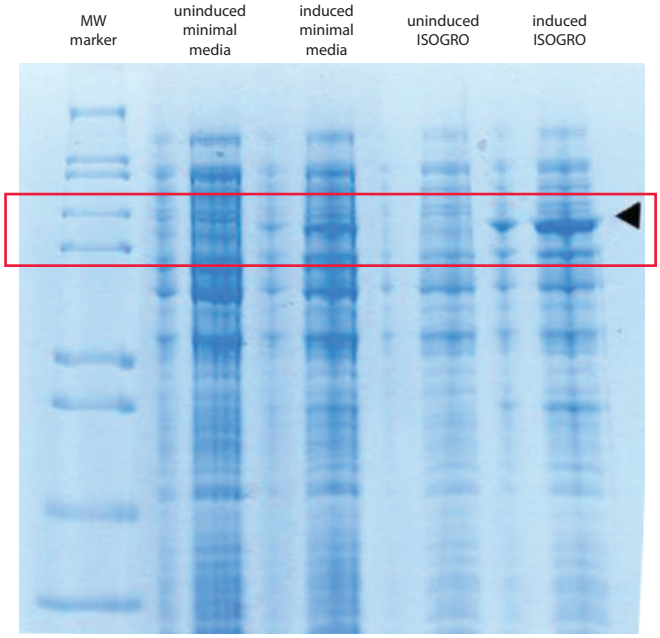

Figure 2. SDS-PAGE of p38 growth. Acknowledgement: Data provided by Dr. Jeffrey W. Peng, Dept. of Chem/Biochemistry, Univ. of Notre Dame, Notre Dame, Indiana

Supplement M9 Media with ISOGRO® for Enhanced Protein Expression

- Decrease lag time by as much as 60%.
- Maximize OD and recombinant protein expression.
- Supplement M9 media with as little as 1 gram of ISOGRO per Liter of culture and improve the production of difficult to express proteins in *E. coli*.
- As a standard quality control measure, the suitability of each batch of ISOGRO as a culture medium is determined by comparison with an LB growth curve.

ISOGRO Analytical Information

(Approximate values – there may be some variation between batches)

COMPOSITION:

Salts	30%
Water	3%
Glucose	2%
Amino acids/Peptides	65%

AMINO ACID ANALYSIS

Ala	13%	Ile	4%	Pro	4%
Arg	3%	Leu	8%	Ser	4%
Asp	14%	Lys	6%	Thr	5%
Glu	10%	Met	3%	Tyr	3%
Gly	12%	Phe	4%	Val	6%
His	1%				

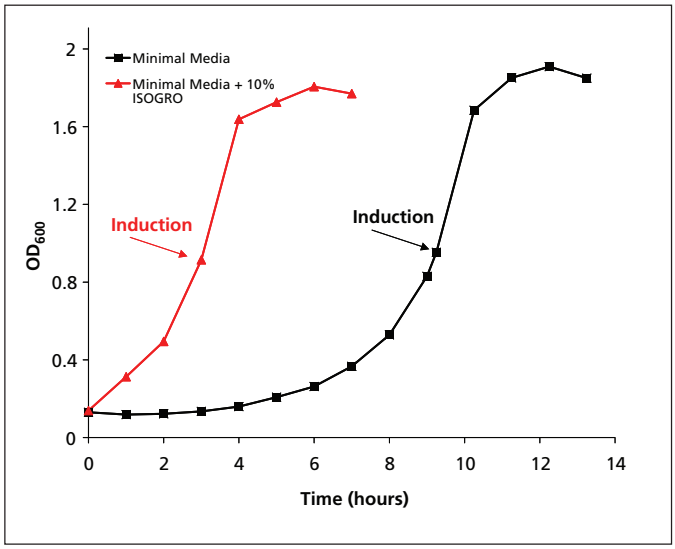

Figure 3. Cardiac troponin cTnC(1-89) in pLysS. Cells grown at 37 °C in shaker flasks. Red curve is ISOGRO supplemented minimal media and black curve is minimal media alone.

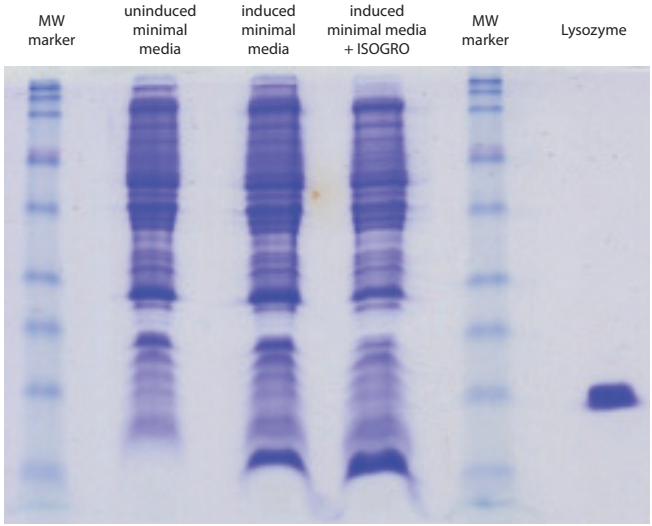

Figure 4. SDS-PAGE cTnC(1-89) cell lysates. Data provided by Dr. Paul R. Rosevear The Department of Molecular Genetics, Biochemistry and Microbiology, University of Cincinnati Medical Center, Cincinnati, OH.

Need additional information? Please contact:
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