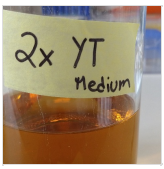

Jul 11, 2020

2XYT Medium (Version 2-0) Haseloff Lab

Fernando FGC Guzman Chavez[1]

[1]University of Cambridge

1 Works for me dx.doi.org/10.17504/protocols.io.bigekbte

Fernando Guzman Chavez
University of Cambridge

ABSTRACT

Work instruction for 2xYT and 2xYTG medium preparation

Following this recipe, you will obtain 1L of 2XYT medium

2X YT is a standard growth medium used to cultivate *E. coli*. In cell-free system, this medium is commonly used to growth the cells.

NOTE :

The protocol described here is an adaptation from these papers:

- **Adam D. Silverman**, Nancy Kelley-Loughnane, Julius B. Lucks, and Michael C. Jewett (2019). *Deconstructing Cell-Free Extract Preparation for in Vitro Activation of Transcriptional Genetic Circuitry*. ACS Synthetic Biology, 403-414. DOI: 10.1021/acssynbio.8b00430.
- **Andriy Didovyk**, Taishi Tonooka, Lev Tsimring, and Jeff Hasty. (2017). *Rapid and Scalable Preparation of Bacterial Lysates for Cell-Free Gene Expression*. ACS Synthetic Biology, 2198-2208. DOI: 10.1021/acssynbio.7b00253.

DOI

dx.doi.org/10.17504/protocols.io.bigekbte

PROTOCOL CITATION

Fernando FGC Guzman Chavez 2020. 2XYT Medium (Version 2-0) Haseloff Lab. **protocols.io** dx.doi.org/10.17504/protocols.io.bigekbte

KEYWORDS

cell-free, 2XYT, CFPS

CREATED

Jul 11, 2020

LAST MODIFIED

Jul 11, 2020

PROTOCOL INTEGER ID

39142

2xYT and 2xYTG medium preparation

1

For this media, following compounds have to be ready-to-use:

- 2XYT powder
- 1M K_2HPO_4 solution
- 1M KH_2PO_4 solution

1.1 1. Prepare for autoclaving

- Volumes indicated are sufficient for 1 L of **2XYT medium**

Compound, Sum Formula	MW [g/mol]	Required amount [g or mL]	Concentration [g/L]
2X YT powder(16g/L tryptone,10g/L yeast extract, 5g/L NaCl	n/a	**31 g**	31
1M Potassium Phosphate Dibasic [K2HPO4]	174.18	**40 mL**	7[0.04M]
1M Potassium Phosphate Monobasic [KH2PO4]	136.09	**22 mL**	3[0.022M]

Dissolve in demi-H2O, fill up to 1000 ml, autoclave 15 min at 121°C

2x YTPG Medium

- For 400 mL 2xYTP liquid medium add 7.2g D-glucose (Mw 180.16 g/mol), for a final concentrationof 0.1M
- Mix until glucose is dissolved and filter sterilize (0.22um filter)

3. Literature/ References

2

Silverman AD, Kelley-Loughnane N, Lucks JB, Jewett MC (2019). Deconstructing Cell-Free Extract Preparation for in Vitro Activation of Transcriptional Genetic Circuitry.. ACS synthetic biology. https://doi.org/10.1021/acssynbio.8b00430

Didovyk A, Tonooka T, Tsimring L, Hasty J (2017). Rapid and Scalable Preparation of Bacterial Lysates for Cell-Free Gene Expression.. ACS synthetic biology. https://doi.org/10.1021/acssynbio.7b00253

4. Change history

Protocol for 2xYTPG medium was included

Citation: Fernando FGC Guzman Chavez (07/11/2020). 2XYT Medium (Version 2-0) Haseloff Lab. https://dx.doi.org/10.17504/protocols.io.bigekbte

3

Citation: Fernando FGC Guzman Chavez (07/11/2020). 2XYT Medium (Version 2-0) Haseloff Lab. https://dx.doi.org/10.17504/protocols.io.bigekbte