

# Culturing Escherichia coli cells

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## Organisation

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**Specific Research Group or Service** In Vitro Toxicology and Dermato-Cosmetology

**Country** Belgium

## SCOPE OF THE METHOD

<b>The Method relates to</b>	Other: Recombinant DNA technology
<b>The Method is situated in</b>	Basic Research, Regulatory use - Routine production
<b>Type of method</b>	In vitro - Ex vivo

## DESCRIPTION

### Method keywords

bacterial cells  
cell culture  
protein expression  
E. coli  
prokaryote

### Scientific area keywords

microbiology  
biotechnology

## Recombinant DNA technology

### Method description

*E. coli* is one of the organisms of choice for the production of recombinant proteins. DH5 alpha cells are commonly used for maintenance, propagation and mutation, whilst BL21(DE3) and C43(DE3) are mainly used for expression of the transgene. The advantage of C43(DE3) is that is used to produce proteins that are expressed poorly in BL21 (DE3) or that are very toxic to the host organism. All strains can be cultured in Lysogeny Broth (LB) medium or LB agar plates with an appropriate antibiotic for positive selection of the clones. For induction of protein expression, isopropyl-b-thiogalactoside (IPTG) in a concentration of 0.2 mM - 1 mM can be used. In case you have a problems with leaky expression, 1 % w/v glucose can be added to the LB medium for excellent growth of the bacteria. Transformation of the cells can be achieved by heat shock or electroporation.

Hì n nay, có r t nhi u trang th thao bóng á tr c tuy n, nh ng a s u có nh ng qu ng cáo ho ch t l ng ko cao ho c phát l u, Chúng tôi socolive v i b n quy n tr c ti p phát sóng tr c ti p , h h n s cung c p cho các b n nh ng tr n bóng á h [pen bóng á tr c tuy n](#)  
Kênh c a chúng tôi luôn luôn thân thi n v i t t c m [ming](#) c p nh ng tr n u tr c ti p c a Vi t Nam và toàn c u, v i video Full HD , ko lag ko gi t, m b o cung c p cho b n nh ng giây phút bóng á tuy t v i nh t

c xem là m t trang bóng á hàng u Vi t Nam, chúng tôi cung c p cho khán gi t t c các tr n , tr c ti p t i hi n tr ng, b n có th ón xem t t c [cáo đài](#), nui [mà](#) ãy n có th th a măn ni m am mê v i bóng á mà không lo b dấn o n vì ch t l ng trang kém

ây chúng tôi cung c p nh ng tr n bóng h p d n nh t, v i hình nh s c nét, trang web thân thi n v i t t c m i ng i Vi t Nam, hãy nh [90p và](#) h tr n u mà b n yêu thích nào

### Lab equipment

Biosafety cabinet;  
Bunsen burner;  
Petri dishes.

### Method status

Still in development  
History of use

Internally validated

## **PROS, CONS & FUTURE POTENTIAL**

### **Advantages**

Fast growth kinetics (doubling time 20 mins);  
High cell density cultures are easily achieved;  
Readily available and inexpensive components for media;  
Easy transformation.

### **Challenges**

No post-translational modifications (i.e. prokaryote).

### **Future & Other applications**

Every researcher that will need a purified protein can obtain it in a recombinant form.

## **REFERENCES, ASSOCIATED DOCUMENTS AND OTHER INFORMATION**

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