florabio

Product Datasheet

SAKURA

Culture medium for *E. Coli*.

Chemically defined, without peptones, without yeast extract, fully synthetic.

For recombinant protein production.

BENEFITS

SAKURA medium offers a fully defined composition that enhances reproducibility while eliminating yeast extract and other undefined components, reducing contaminants in purified proteins. Optimized for high-density *E. coli* growth and recombinant protein yield, it requires minimal adaptation from other complex media, ensuring easy implementation. Its simplicity makes it suitable for both research and industrial applications.

Simplicity: Ideal from bench to manufacturing scale.

Fully defined: Free of animal components, hydrolysates, yeast extract, other peptones peptides or proteins. This medium consists of single, fully defined chemicals, thus process variability is reduced.

SPECIFICATION

Regulatory	Free of animal components, hydrolysates, peptones, peptides, yeast extract, proteins.
Available Form	powder
Bacteria	*E. Coli*
Storage Cond. Stable	2-8 ^{0}C, protect from light one year
Application	Research and manufacturing

APPLICATION

SAKURA medium is a fully defined formulation designed to maximize recombinant protein production in *E. coli* in a clean environment. By eliminating complex components such as yeast extract, it minimizes batch-to-batch variability and reduces contamination risks in downstream protein purification. SAKURA medium supports high-density bacterial growth and robust protein expression, making it an ideal choice for applications in biopharmaceutical development, industrial enzyme production, and academic research. Its minimal adaptation requirements from other complex *E. coli* media ensure seamless integration into existing workflows, providing researchers with a reliable and consistent platform for high-performance recombinant protein expression.

Sub-Culturing Procedure

- SAKURA medium is ready to use. Solubilize SAKURA from the powder and add your desired antibiotics.
- **It is important to adapt your *E. Coli* to SAKURA in one culture step. Culture your E. Coli clone one passage in SAKURA before testing it in production.**
- Take glycerol stock of *E. Coli* and thaw directly in SAKURA medium (0.1% of working volume).
- Culture the *E. Coli* for 16-18 hours in SAKURA and use this culture as inoculum for production step. This step serves as adaptation of your *E. Coli* in SAKURA.
- Inoculate your test flasks with the *E. Coli* (2% of working volume) in SAKURA and perform production study compared to your control.

PERFORMANCE

A biosimilar protein production with *E. Coli* BL21

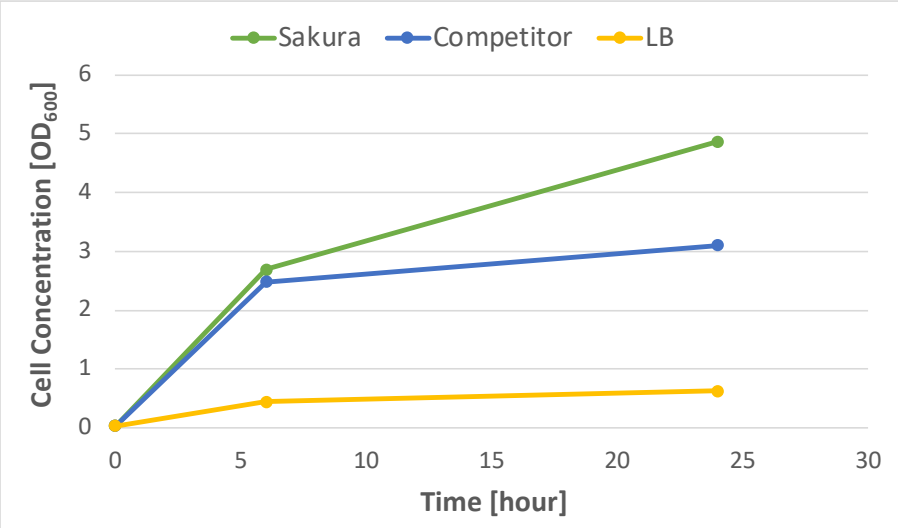

Figure 1. Growth Comparison of E. coli BL21 Producing an Antibody Fragment in Different Media. This graph shows the cell concentration (OD_{600}) of E. coli BL21 expressing an antibody fragment, cultured in SAKURA medium (green), a commercial competitor medium (blue), and LB (Luria Broth) with yeast extract (yellow) over a 24-hour period. Measurements at 0, 6, and 24 hours indicate that SAKURA medium supports the highest cell density, followed by the competitor, while LB shows the lowest growth.

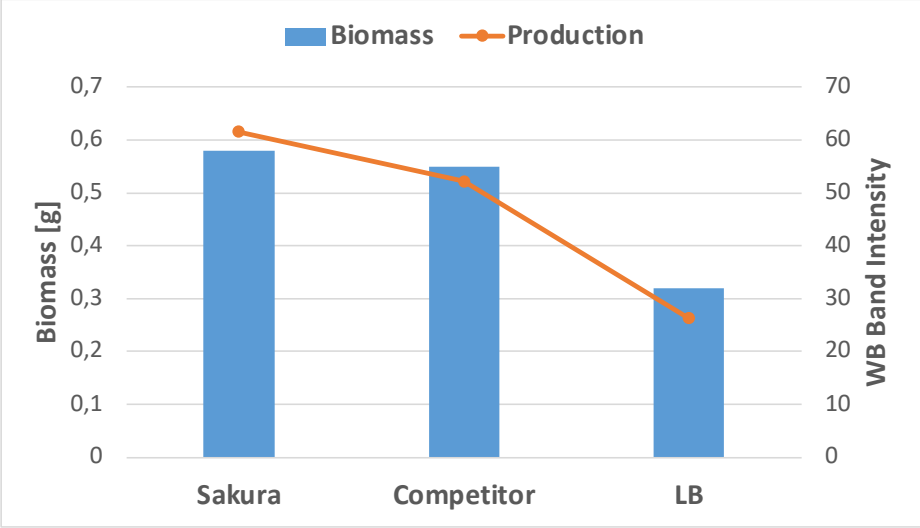

Figure 2. Biomass and Antibody Fragment Production in E. coli BL21 Cultured in Different Media. This graph compares the wet biomass (blue bars) and antibody fragment production (orange line), measured via semi-quantitative Western Blot of *E. coli* BL21 grown in SAKURA medium, a commercial competitor medium, and LB medium with yeast extract.

SAKURA medium demonstrated superior cell growth and protein production, reaching the highest OD_{600}, while the competitor showed moderate growth, and LB medium including yeast extract exhibited the lowest growth and protein production.

Green fluorescence protein expression using E. Coli W3110

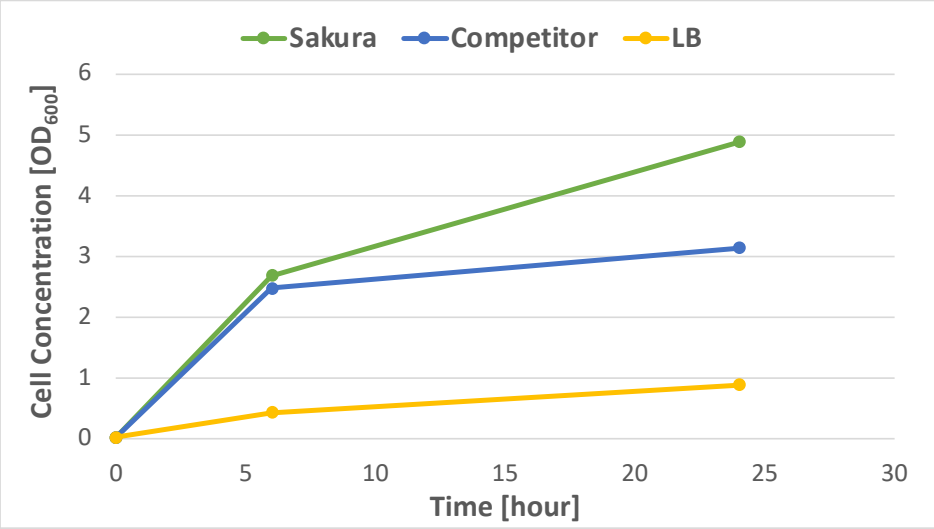

Figure 3 Growth Comparison of E. coli W3110 Expressing GFP in Different Media. This graph shows the cell concentration (OD_{600}) of E. coli W3110 expressing GFP, cultured in SAKURA medium (green), a commercial competitor medium (blue), and LB (Luria Broth) with yeast extract (yellow) over a 24-hour period.

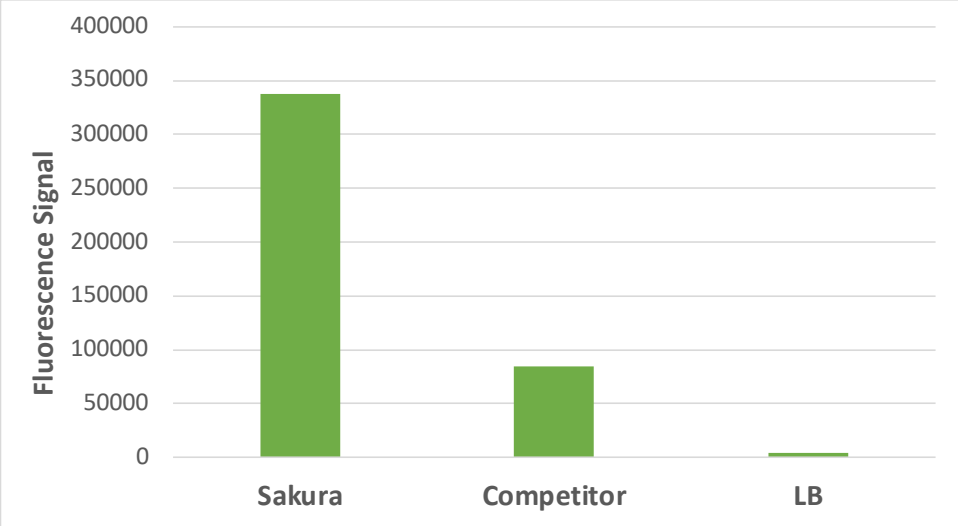

Figure 4. GFP Production in E. coli W3110 Cultured in Different Media. This graph presents the fluorescence signal of GFP-expressing *E. coli* W3110 after 24 hours of cultivation in SAKURA medium, a commercial competitor medium, and LB with yeast extract.

We can compare peptone free SAKURA with LB medium containing yeast extract. SAKURA without yeast extracts delivers better results than LB medium with yeast extract. If you wish to obtain even more product than SAKURA alone delivers, you might supplement SAKURA with yeast extract. Additional yeast extract might increase expression of your protein further. To test this, you might add in one additional flask 5-10 g/L yeast extract into SAKURA and test it in parallel to SAKURA without yeast extract.

MEDIA SUPPLY SECURITY

Eminence 埃美益	CAPRICORN SCIENTIFIC
	MADE IN GERMANY

- Our media are manufactured by partners, Eminence Scientific (China) and Capricorn Scientific (Germany), ensuring a consistent global supply from two strategic locations.
- Produced under GMP standards by Eminence Scientific or Capricorn Scientific, our media comply with EMA and FDA regulations.
- Available in liquid form, in GMP or non-GMP grades, tailored to customer specifications.
- GMP batch sizes reach approximately 2,000 L of liquid media.
- Media are supplied directly by Eminence Scientific or Capricorn Scientific.
- Through our extensive distribution network, we deliver to nearly every country worldwide.
- We invite our valued customers to tour our cutting-edge production facilities in Germany or China.

TECHNICAL SUPPORT

Developer	Contact
florabio	info@florabio.com.tr

The developer of the culture media and solutions is Florabio A.S. We welcome our valued customers to contact us about any questions you might have in media characteristics or application of medium in your lab. We would be please to share our experience with you.

ORDERING INFORMATION

Name	Application	Formulation	Volume	Catalogue number
SAKURA	Culture medium	Liquid	0.5 L	SKR1-L05
SAKURA	Culture medium	Liquid	1 L	SKR1-L1
SAKURA	Culture medium	Powder	1 L	SKR1-P1

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