### For Validation and Monitoring of Sterilization Processes

ACE test is a biological indicator which can confirm whether sterilization has been carried out properly after autoclave, EO Gas, H<sub>2</sub>O<sub>2</sub>, LTSF, formalin, and steam sterilization at 115°C

- Features Highly reliable sterilization results obtained after 24 hours, 48 hours or 7 days culturing
  - ♦ Built-in chemical indicator provides quick identification of processed BIs
  - ♦ Potency and stability retained for 18 months after production
  - ♦ Fits competitor's incubators
  - Matches criteria required as a biological indicator for JP, USP, EN866, and ISO11138 Sterilization methods

### Surface Sterilization



Component: Spore strip bag, Medium (screw cap tube)

### How to test:

- 1. Put a bag in the objective point and sterilize it.
- 2. After sterilization, take a strip out of a bag under germfree environment and put it in an attached nutrient medium.
- 3. Culture it together with the positive control by an exclusive incubator (Cat. No. FUK-H8200).

	H <sub>2</sub> O <sub>2</sub>		ClO₂		
	After 24 hours		After 48 hours		
Color change	Complete	Incomplete	Complete	Incomplete	

### Other Sterilizations



**Component:** Spore strip, Medium (self-contained)

- 1. Put a bottle in the objective point and sterilize it.
- 2. After sterilization, confirm whether indicator label has changed.
- 3. Break an ampoule according to protocol and make a sporule filter paper and a nutrient medium touch and culture it.
- Regarding dry heat test, protocol is different from others. Please see protocol for dry heat test.

	Autoclave After 24 hours	<b>EO gas</b> After 48 hours	
Color change	Complete Incomplete	Complete Incomplete	
Change	ACE test® ② Limition BLL/Sizes See G. discontinengation Lis Gold See 2000, (SE  Before  ACE test® ② Limition Debt G. discontinengation Lis Gold See 2000, (SE  After	ACE test® ② Limition B.1.(1) Dea Barbonic anytheres List (0120) 69 2003/195  Before After	

### ► Dry Heat Sterilization

Please note that dry sterilization test component is divided to culture medium (Cat. No. FUK-H6302M) and indicator(Cat. No. FUK-H6302). We also offer the set of indicator and medium (Cat. No. FUK-H6302K) Put a bacteria ampoule (Cat. No. FUK-H6302) in an objective container and perform dry heat sterilization. Take the spore strip out of an ampoule and put it in an exclusive nutrient medium (Cat. No. FUK-H6302M), and culture it.

	<b>Dry Heat</b> After 48 hours			
Color change	General Complete	Incomplete		



Indicator bacterium for (Cat. No. H6302)



Medium for exclusive use

Туре	Indicator bacterium	Label color change after sterilization	Color change of vial when sterilization is incomplete
Hydrogen Peroxide Vapor Sterilization	Geobacillus stearothermophilus	-	→ <mark>Yellow</mark>
Chlorine dioxide Sterilization	Bacillus atrophaeus	-	→ <mark>Yellow</mark>
Autoclave	Geobacillus stearothermophilus	$\rightarrow$	→ <mark>Yellow</mark>
EO gas sterilization	Bacillus atrophaeus	$\rightarrow$	→ Yellow
Dry heat sterilization	Bacillus atrophaeus	-	→ Yellow
Hydrogen peroxide sterilization	Geobacillus stearothermophilus	→ Yellow	→ <mark>Yellow</mark>
Steam sterilization at 115℃	Bacillus subtilis "5230"	$\rightarrow$	→ Yellow
LTSF sterilization	Geobacillus stearothermophilus	→ Yellow	→ Yellow
Formalin sterilization	Bacillus atrophaeus	→ <mark>Yellow</mark>	→ Yellow



## **ACE test® Product list**

Description	Cat. No.	Number of spores	Purpose of use	Package
	FUK-H3726-2	Over $1 \times 10^2$		1 pack
	FUK-H3726-3	Over $1 \times 10^3$	Sterilization in the isolator, Sterilization of	1 pack (100 bags / 100 bottles)
ACE test (Hydrogen Peroxide Vapor Sterilization) for air sterilization	FUK-H3726-4	Over 1 × 10 <sup>4</sup>	sickroom environment Sterilization, Decontamination in the pharmaceutical	1 pack (100 bags / 100 bottles)
Sternization) for all sternization	FUK-H3726-5	Over 1 × 10 <sup>5</sup>		1 pack (100 bags / 100 bottles)
	FUK-H3726T	Over 1 × 10 <sup>6</sup>	factory	1 pack (100 bags / 100 bottles)
ACE test (Chlorine dioxide Sterilization) for air sterilization	FUK-H6306	Over 1 × 10 <sup>6</sup>		1 pack (100 bags / 100 bottles)
ACE test (Autoslava)	FUK-H3723	Over 1 × 10⁵	121°C /132°C steam sterilization	1 pack (100 bottles)
ACE test (Autoclave)	FUK-H3723T	Over 1 × 10 <sup>6</sup>	121°C /132°C steam sterilization	1 pack (100 bottles)
ACE test (EO Gas)	FUK-H3724	Over 1 × 10 <sup>6</sup>	EO gas sterilization	1 pack (100 bottles)
ACE test (Dry Heat)	FUK-H6302	Over 1 × 10 <sup>6</sup>	160-350°C dry-heat sterilization	1 pack (100 bottles)
ACE test (Medium for B. atrophaeus)	FUK-H6302M	Over 1 × 10 <sup>6</sup>	160-350°C dry-heat sterilization	1 pack (100 bottles)
ACE test (Dry Heat Kit)	FUK-H6302K	Over 1 × 10 <sup>6</sup>	160-350°C dry-heat sterilization	1 pack (100 bottles of sporule strip and medium)
ACE test (H <sub>2</sub> O <sub>2</sub> )	FUK-H3725T	Over 1 × 10 <sup>6</sup>	hydrogen peroxide low temperature plasma sterilization	1 pack (100 bottles)
ACE test (Steam Sterilizer 115℃)	FUK-H6301	Over 1 × 10 <sup>6</sup>	115℃ steam sterilization	1 pack (100 bottles)
ACE test (LTSF)	FUK-H6303T	Over 1 × 10 <sup>6</sup>	LTSF sterilization	1 pack (100 bottles)
ACE test (formalin)	FUK-H6305	Over 1 × 10 <sup>6</sup>	Formalin sterilization	1 pack (100 bottles)

<sup>\*</sup> Exclusive medium is not included. The exclusive medium is FUK- H6302M.

### **Exclusive use for biological indicator**

# **ACE mini INCUBATOR**

Block incubator with microprocessor

- ♦ Compact size. Machine fits onto the palm of your hand.
- Easy-to-read display.
- ♦ Built-in program function allows 9 possible combinations of temperature and time.
- ♦ Accurate and uniform temperature control. Temperature calibration function.
- ♦ Timer function of 1 minute to 99 hours 59 minutes. Alarm buzzer indicates end of incubation.
- ♦ Alarm buzzer when failure is detected in the machine.
- ♦ Complies with safety provisions of CE regulations.
- ♦ CE mark certified
- ◆ Corrosion resistant aluminum block
- **♦ Temperature calibration function**



Cat. No. FUK-H8100



Cat. No. FUK-H8200

### Specifications

Cat. No.	FUK-H8100	FUK-H8200	
Operating temperature range	RT + 5°C- 80°C		
Temperature rise time	Within 6 minutes (20°C-56°C)		
Accuracy of temperature	±0.5℃		
Setting time	1 minute – 99 h	ours 59 minutes	
Unit of despray	0.1	1℃	
Material of thermo block	Aluminum		
Operating environment	5°C- 35°C		
Dimension	W110 mm×D15	0 mm×H80 mm	
Weight (contains block)	0.5 kg		
Electricity consumption	Mximum 35 W, Average 5 W		
Power source	AC100-240 V, 50/60 Hz, 80 VA		
Ampoule crush device	0	×	
Number of apertures	22	15	
Material of thermo block Operating environment Dimension Weight (contains block) Electricity consumption Power source Ampoule crush device	Aluminum 5°C-35°C W110 mm×D150 mm×H80 mm 0.5 kg Mximum 35 W, Average 5 W AC100-240 V, 50/60 Hz, 80 VA ○ ×		

### Correspondence table

Cat. No.	FUK-H8100	FUK-H8200
Hydrogen Peroxide Vapor Sterilization	×	•
Chlorine dioxide Sterilization	×	•
Autoclave	•	•
EO gas sterilization	•	•
Dry heat sterilization	×	•
Hydrogen peroxide sterilization	•	•
Steam sterilization at 115℃	•	•
LTSF sterilization	•	•
Formalin sterilization	•	

Description	Cat. No.	Size
ACE mini INCUBATOR	FUK-H8100	1 unit
ACE mini INCUBATOR	FUK-H8200	1 unit



# COSMO BIO CO., LTD.

TOYO EKIMAE BLDG. 2-20, TOYO 2-CHOME, KOTO-KU. TOKYO 135-0016, JAPAN TEL: (81)3-5632-9617 FAX: (81)3-5632-9618

FAX: (81)3-5632-9618 e-mail: export@cosmobio.co.jp URL: www.cosmobio.com



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<sup>\*</sup> Biological indicator is not included.

<sup>\*</sup> Set of biological indicator and exclusive medium