



BioChip-D (Order No. 08503)

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General

Please check delivery for transport damage when unpacking.

Description

Multiparametric BioChip for measurement (Impedance, pH and temperature) of cellular metabolism and morphology on glass substrate for optical access via microscope.

Caution

Handle with care.

- Glass tends to break due to mechanical stress.



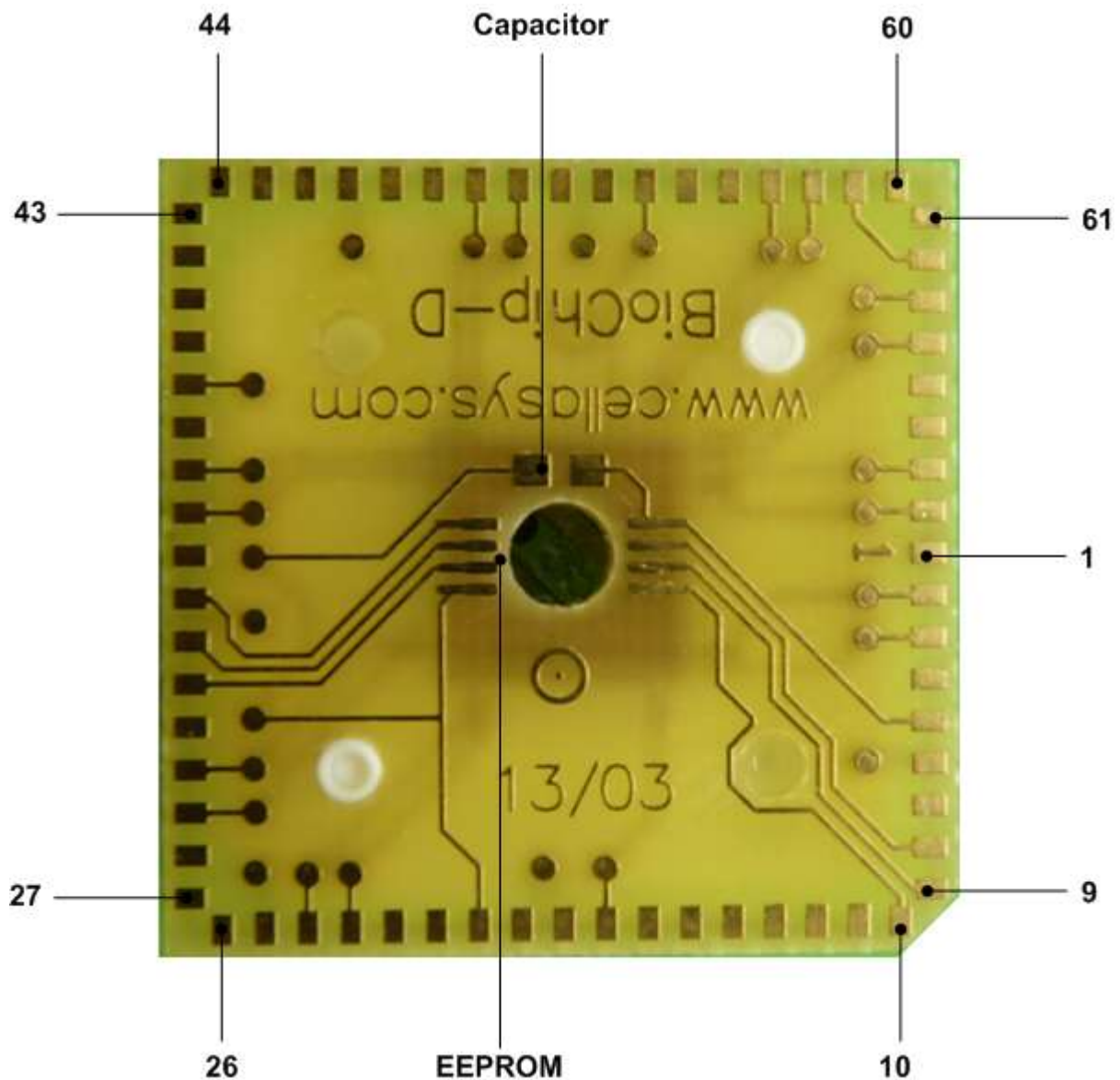
In general **BioChip-D** may only be used in combination with cellasys IMOLA by **qualified personnel** of a research or healthcare institution. Read the **IMOLA manual** thoroughly and carefully follow the instructions and guidelines provided.

View from top side



IDES: Interdigitated electrode structure
 DO: Dissolved oxygen
 Temp: Temperature

View from bottom side



EEPROM*: M24C01 (TSSOP) – 401RP KTK726
24AA08 (MSOP) – 4A08I 5123M1

Capacitor*: 100nF (0603)

*Note: The BioChip is not equipped with an EEPROM and not equipped with a capacitor. This functionality is optional.

Pin configuration

Pin No.	Name	Description
1	-	Not connected
2	TEMPAU	Temperature sensor, voltage connector A
3	TEMPAI	Temperature sensor, current connector A
4	-	Not connected
5	MEMGND	EEPROM GND
6	-	Not connected
7	-	Not connected
8	MEME2	EEPROM chip enable 2
9	MEME1	EEPROM chip enable 1
10	MEME0	EEPROM chip enable 0
11	-	Not connected
12	-	Not connected
13	-	Not connected
14	-	Not connected
15	-	Not connected
16	-	Not connected
17	PH2	pH sensor 2
18	-	Not connected
19	-	Not connected
20	MEMVCC	EEPROM VCC (2.5V – 5.5V)
21	-	Not connected
22	-	Not connected
23	IDES2AU	Impedance sensor 1, voltage connector A
24	IDES2AI	Impedance sensor 1, current connector A
25	-	Not connected
26	-	Not connected
27	-	Not connected
28	-	Not connected
29	IDES2BI	Impedance sensor 1, current connector B
30	IDES2BU	Impedance sensor 1, voltage connector B
31	-	Not connected
32	MEMWC	EEPROM write control
33	MEMSCL	EEPROM serial clock
34	MEMSDA	EEPROM serial data
35	-	Not connected
36	O2REF	Dissolved oxygen sensor, reference electrode
37	PH1	pH sensor 1
38	-	Not connected
39	-	Not connected
40	-	Not connected

Pin No.	Name	Description
41	-	Not connected
42	-	Not connected
43	-	Not connected
44	-	Not connected
45	-	Not connected
46	-	Not connected
47	-	Not connected
48	-	Not connected
49	-	Not connected
50	O2WK	Dissolved oxygen sensor, work electrode
51	O2AUX	Dissolved oxygen sensor, auxiliary electrode
52	-	Not connected
53	-	Not connected
54	-	Not connected
55	-	Not connected
56	-	Not connected
57	IDES1AU	Impedance sensor 2, voltage connector A
58	IDES1AI	Impedance sensor 2, current connector A
59	SC	Shortened to 62
60	-	Not connected
61	-	Not connected
62	SC	Shortened to 59
63	IDES1BI	Impedance sensor 2, current connector B
64	IDES1BU	Impedance sensor 2, voltage connector B
65	-	Not connected
66	-	Not connected
67	TEMPBI	Temperature sensor, current connector B
68	TEMPBU	Temperature sensor, voltage connector B

Technical data

Dimensions:	24.0 x 24.0 x 10.0 mm ³
Weight:	4.5 g
Well diameter:	10 mm
Cell culture area:	Ø 6 mm

Operating temperature:	0 °C to +80°C
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pH (PH)

Dimensions (MeOx-Spot):	~ 3 mm ²
Linear range:	pH 5.0 to pH 11.0
Sensitivity:	~ - 40 mV/pH
Response time (t ₉₀):	< 5 s

Impedance (IDES)

Dimensions:	~ 10 mm ²
Linear range:	10 Ω to 5 kΩ
Geometry:	IDES1: 50 µm width, 25 µm distance IDES2: 50 µm width, 50 µm distance
Response time (t ₉₀):	< 1 s

Temperature (TEMP)

Dimensions:	~ 4 mm ²
Linear range:	0 °C to +80 °C
Sensitivity:	17.5 Ω/°C +/- 10 % (1.75 mV/°C +/- 10 % @ 100µA)
Response time (t ₉₀):	< 1 s

Intended use

The BioChip-D is designed to be used in combination with IMOLA, for multiparametric measurement (impedance, pH and temperature) of cellular metabolism and morphology.

Intended misuse

The BioChip-D must not be used for diagnostic or therapeutic purposes.

Liability / Copyright

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