

TEST REPORT

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Receipt No.: 99063

Testing Event: Assessment of stability for lycopene-like on heat, pH value, and time

Testing Type: Entrusted by client

Name of Sample: *Rhodobacter sphaeroide*-produced lycopene-like (LYC-L)

Sampling Method: Sampling from client

Client: Asia-Pacific Biotech Developing, Inc.


Date of Sampling: (Y) 2010 (M) 9 (D) 16

Date of Testing: (Y) 2010 (M) 9 (D) 20 ~ (Y) 2010 (M) 11 (D) 6

Date of Issue: (Y) 2010 (M) 10 (D) 20

Laboratory of Skin Physiology
& Biochemistry



台南縣仁德鄉二仁路一段60號 
TEL : (06)2664911轉2400
FAX : (06)2667324

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Assessment of stability for LYC-L on heat, pH value, and time

Assessment of stability for *Rhodobacter sphaeroide*-produced lycopene-like (LYC-L) on heat, pH value and time, results of testing as shown below:

The stability of testing sample on heat was displayed in figure 1. There were no significant differences in lycopene content of sample (15 $\mu\text{g}/\text{mg}$ sample) with gradually arising ambient temperature (25, 37, 50, 70, and 100°C), (A). Meanwhile, it was also found that the LYC-L content of sample (about 98 % of sample in 25°C) did not affect by gradually arising ambient temperature, (B). Therefore, we speculate that the content of lycopene and LYC-L in samples appears stability against changes of temperature.

The stability of testing sample on pH value was displayed in figure 2. There were no significant differences in lycopene content of sample (15 $\mu\text{g}/\text{mg}$ sample) with gradually arising pH value (3, 5, 7, 9, and 11), (A). Meanwhile, it was also found that the LYC-L content of sample (about 98 % of sample in 25°C) did not affect by gradually arising pH value, (B). Therefore, we speculate that the content of lycopene and LYC-L in samples appears stability against changes of pH value.

The stability of testing sample on time was displayed in figure 2. There were no significant differences in lycopene content of sample (15 $\mu\text{g}/\text{mg}$ sample) with gradually prolonging time (6, 12, 24, 48, and 72 hours), (A). Meanwhile, it was also found that the LYC-L content of sample (about 98 % of sample in 25°C) did not affect by gradually prolonging time, (B). Therefore, we speculate that the content of lycopene and LYC-L in samples appears stability against prolongation of time.

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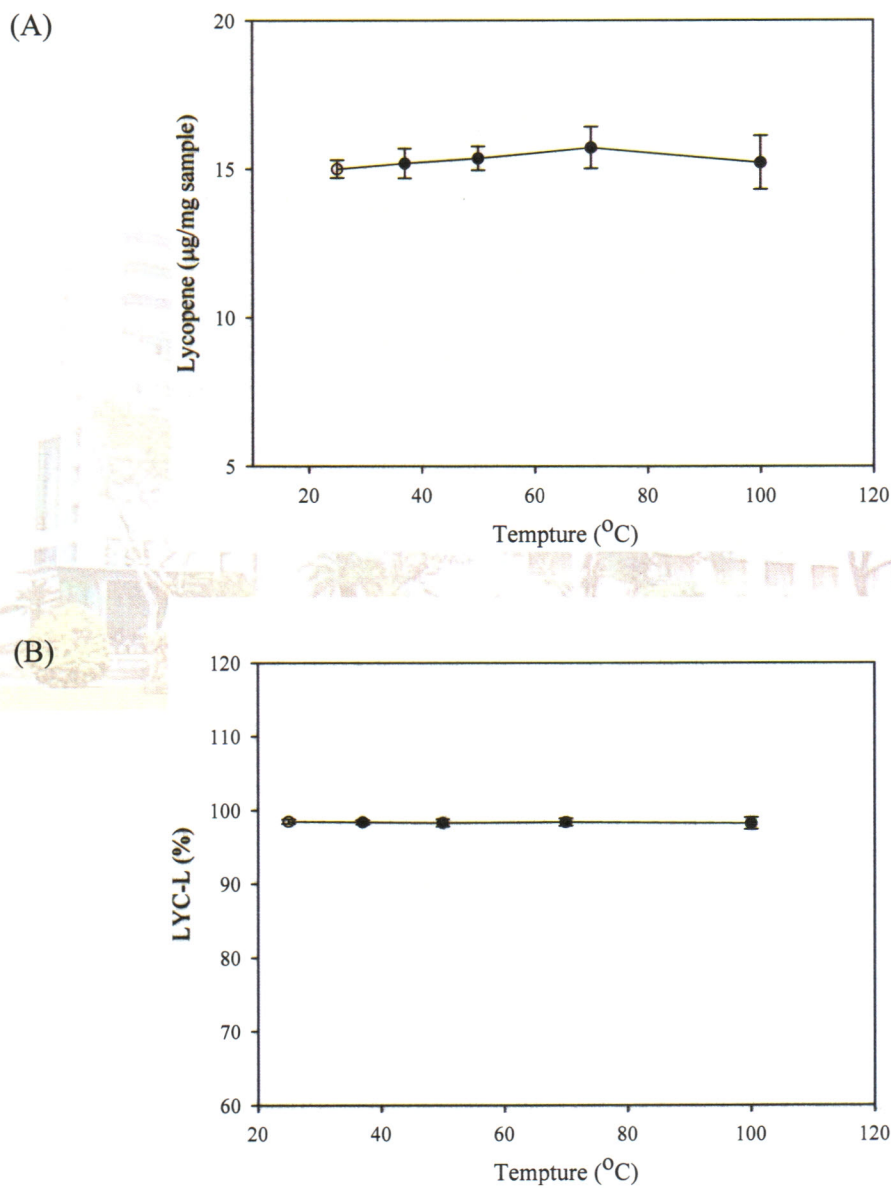


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Results of Testing

Figure 1. Effects 24h incubation with various temperature on content of lycopene (A) or lycopene-like (LYC-L) (B).

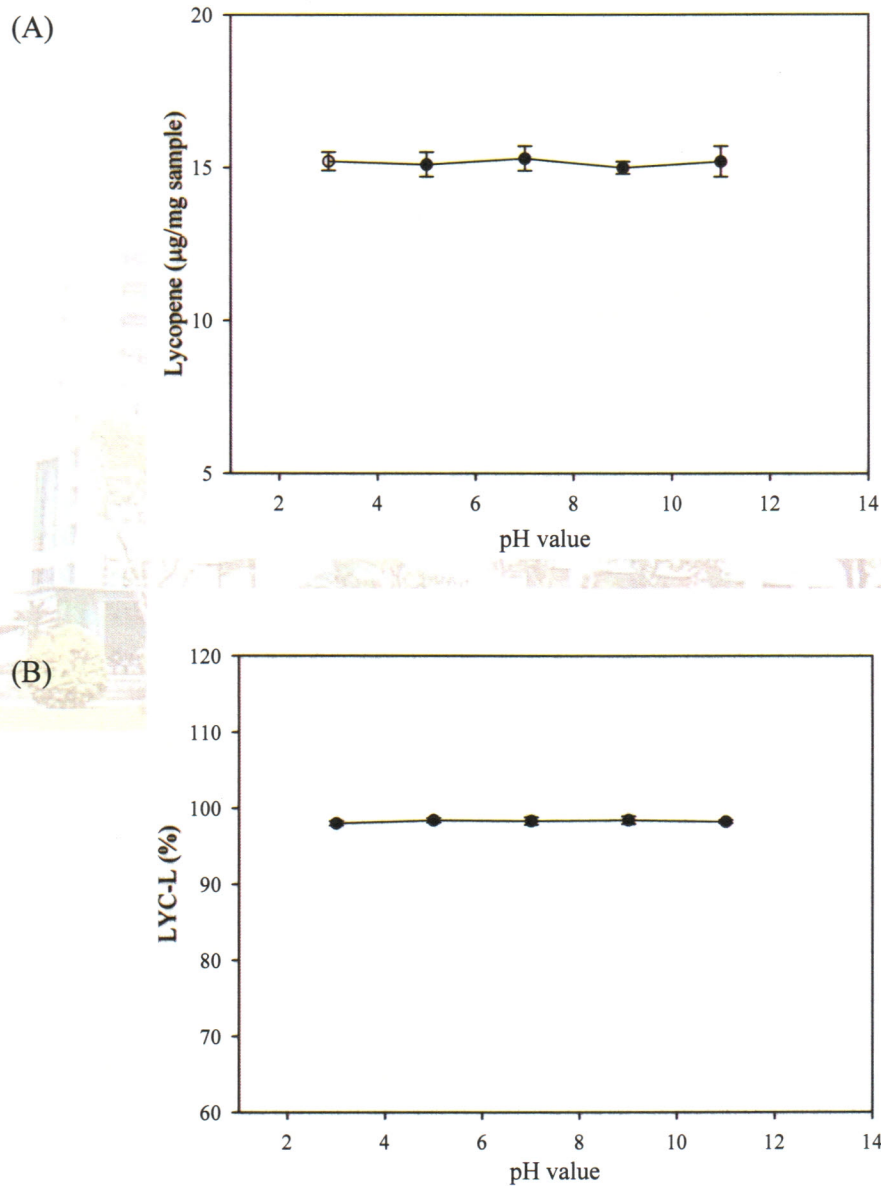


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Results of Testing

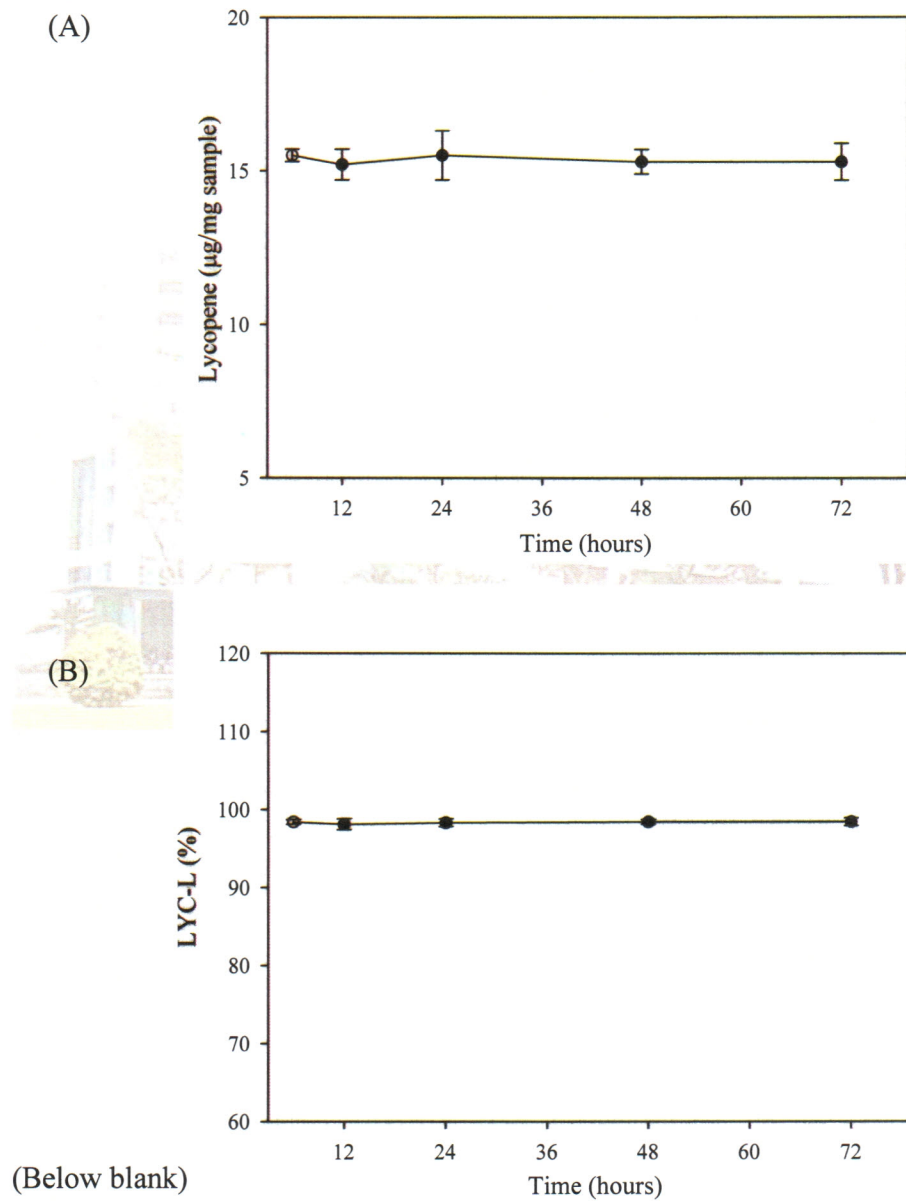
Figure 2. Effects 24h incubation with various pH values on content of lycopene (A) or lycopene-like (LYC-L) (B).



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Results of Testing

Figure 3. Effects 25°C incubation with various times on content of lycopene (A) or lycopene-like (LYC-L) (B).





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Explanation of Testing

1. This test report shall not be allowed to alter, increase, diminish or delete.
2. Results of this test report only relate to the items tested.
3. This test report shall not be allowed to advertise or publish in any commercial purpose without agreement.
4. This test report shall not be allowed to copy wholly or partly without agreement.
5. Lab. of the testing place:
Lab. of Integumentary Physiology & Biochemistry, Q808 in laboratory building Q,
Chia-Nan University of Pharmacy & Science
60, Erh-Jen RD., Sec.1, Jen-Te, Tainan, Taiwan

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