



Fig. S1. The glucose content (A) and ROS level (B) in high glucose model. The effect of different sample concentrations on glucose content (C) and ROS level (D). Data expressed as mean \pm standard deviation (A and C, $n = 3$; B and D, $n = 6$). Means with different letters in figure were significantly different at $p < 0.05$.

Table S1. Purity of polyphenol extracts at different fermentation time.

Polyphenol extracts	Purity (%)
NF	47.06 ± 0.51 ^{ab}
F0	43.67 ± 1.39 ^c
F1	46.73 ± 1.86 ^{ab}
F2	46.23 ± 1.67 ^{abc}
F3	44.22 ± 1.50 ^{bc}
F5	46.84 ± 1.42 ^{ab}
F7	44.78 ± 1.74 ^{bc}
F9	47.95 ± 1.81 ^a

The purity of polyphenol extract was expressed as the ratio between the total polyphenol content and the total quality of the extract, expressed as a percentage. NF, non-fermented; F0/F1/F2/F3/F5/F7/F9, fermentation for 0/1/2/3/5/7/9 d. Data expressed as mean ± standard deviation (n = 3). Means with different letters were significantly different at $p < 0.05$.

Table S2. Primers of genes used for qPCR.

Gene	Forward primer	Reverse primer
<i>act-1</i>	CCAGGAATTGCTGATCGTATGCAGAA	TGGAGAGGGAAGCGAGGATAGA
<i>sod-3</i>	AGCATCATGCCACCTACGTGA	CACCACCATTGAATTTTCAGCG
<i>ctl-1</i>	GAATGTGAAGAATTATTTTCGCTGA	AACTCGATTCTGGGACGAT
<i>daf-16</i>	TCGTGTGCTCAGAATCCACT	TGCAGCTACAATTCCACACG
<i>skn-1</i>	CTTCAGGACGTCAACAGCAG	GATTCCGAAGAGAGGCGAGA
<i>gst-4</i>	TCTTGCTGAGCCAATCCGTA	AATGGGAAGCTGGCCAAATG
<i>gcs-1</i>	GTCGATGAAGCCAGATGGTTGT	CGATCGTCGACACTTGCACTAA
<i>mtl-1</i>	AGTGCGGAGACAAATGTGAATGC	AGCAGTTCCTGGTGTGATGG