

Supplementary Table SI. Purification of the anthocyanin degradation enzyme (ADE) from Litchi fruit pericarp

| Step | Total volume (mL) | Total activity (nmol min ⁻¹) | Total protein (μg) | Specific activity (nmol min ⁻¹ μg ⁻¹ protein) | Recovery rate (%) | Purification fold |
|---|-------------------|--|--------------------|---|-------------------|-------------------|
| Raw extract | 790 | 1858.045 | 166023.9 | 0.011 | 100 | 1 |
| 30% (NH ₄) ₂ SO ₄ | 815 | 1293.701 | 53871.5 | 0.024 | 69.63 | 2.2 |
| 70% (NH ₄) ₂ SO ₄ | 32 | 71.539 | 3233.9 | 0.022 | 3.85 | 2.0 |
| DEAE-Sepharose | 20 | 48.540 | 1322.0 | 0.037 | 2.61 | 3.3 |
| Sephadex G-200 | 2.5 | 5.901 | 7.1 | 0.827 | 0.32 | 73.9 |

Supplementary Table SII. Comparison of inhibitor responses for ADE activity from Litchi fruit pericarp

| Effector | Concentration (mM) | Inhibition (%) |
|-------------------------|--------------------|----------------|
| <i>p</i> -Coumaric acid | 1 | 18.89 |
| Cinnamic acid | 1 | 6.1 |
| Ferulic acid | 1 | 25.29 |
| PVP | 5 | 0 |
| SDS | 5 | 91.31 |
| CTAB | 5 | 67.4 |

Supplemental Table SIII. Primers used for full length cDNA fragment cloning of ADE/LAC gene

| Name | Sequence (5' to 3') |
|--------------------------|--|
| ADE/LAC-F3 | CCACTACGAYTTYGTNGTNAA |
| ADE/LAC-R1 | GGGTCCAATYTTTRCAYTGNGT |
| ADE/LAC-F2 | CAACCACAACCTCACAGTGG |
| ADE/LAC-R2 | CAACTTATCGCCACCCAGAT |
| ADE/LAC (3'RACE-F2) | CAACCACAACCTCACAGTGG |
| 3CDS | AAGCAGTGGTATCAACGCAGAGTAC (T) ₃₀ VN |
| ADE/LAC (5'RACE-R2) | GTCGTATGAAGCCGAATGGT |
| 5'RACE (outer primer) | CATGGCTACATGCTGACAGCCTA |
| 5'RACE (inner primer) | CGCGGATCCACAGCCTACTGATGATCAGTCGATG |

Supplemental Table SIV. Primers used for construction of the vector for transient expression ADE/LAC and ADE/LAC-YFP protein in *N. benthamiana* (Nb) leaves

| Name | Sequence (5' to 3') |
|--------------------------|---------------------------------|
| pBI101-35S-ADE/LAC-F | ACGGATCCATGGGTTTGGTGTTCGAGGTTC |
| pBI101-35S-ADE/LAC-R | TGGAGCTCTCAAGAGCTGGAACAACACTAGG |
| pBI101-35S-ADE/LAC-YFP-F | TTGTTCGACATGGGTTTGGTGTTCGAGGTTC |
| pBI101-35S-ADE/LAC-YFP-R | TGGAGCTCTCAAGAGCTGGAACAACACTAGG |

Supplemental Table SV. Primers used for quantitative real-time PCR analysis

| Name | Sequence (5' to 3') |
|-----------|-----------------------------|
| ACTIN-F | ACCGTATGAGCAAGGAAATCACTG |
| ACTIN-R | TCGTCGTACTIONCACCCCTTGAAATC |
| ADE/LAC-F | GGACTAATCTTGGGAATG |
| ADE/LAC-R | TAAATCTGATGGCAACCC |
| PPO-F | GGAGCAAGAAGGAGAAGGAA |
| PPO-R | GGAACCAAAGTTACCACCAC |