

# Characteristic of the Ascorbate Oxidase Gene Family in *Beta vulgaris* and Analysis of the Role of AAO in Response to Salinity and Drought in Beet.

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**Table S1** . Primer sequences and the lengths of PCR products.

|    | gene symbol                   | primers sequence 5'→3' |                       | length of the PCR product [bp] |
|----|-------------------------------|------------------------|-----------------------|--------------------------------|
| 1  | <i>BvAAO_1</i>                | F                      | CTTTTCGCTTGGCAGGATAC  | 174                            |
|    |                               | R                      | TCCACATCCCTACGTTGTCA  |                                |
| 2  | <i>BvAAO_2</i>                | F                      | ACCACTACGGGCAGATCAAC  | 126                            |
|    |                               | R                      | GCTTCAATGGGGTATCAACG  |                                |
| 3  | <i>BvAAO_3</i>                | F                      | TAGCCGACCCTTGATACCTG  | 136                            |
|    |                               | R                      | ATCAGGGGAAGGCAAATCTT  |                                |
| 4  | <i>BvAAO_4</i>                | F                      | GGCTGCTTCTCACCATGATT  | 131                            |
|    |                               | R                      | GACTGGCTTGGGTCCATTTA  |                                |
| 5  | <i>BvAAO_5</i>                | F                      | TCAAAGACCGCCTCCTAATG  | 175                            |
|    |                               | R                      | CGGGTGAGTATCGCTGGTAT  |                                |
| 6  | <i>BvAAO_6</i>                | F                      | TGATATGCCTACGCCTGATG  | 171                            |
|    |                               | R                      | GAACCTTCCACCTCAACCAA  |                                |
| 7  | <i>BvAAO_7</i>                | F                      | ATGGTGTTTGGCAGAGGAAG  | 144                            |
|    |                               | R                      | GCATCAATGTGGAAGGGAAG  |                                |
| 8  | <i>BvAAO_8</i>                | F                      | CGTCACACTCGCCCTATGTA  | 127                            |
|    |                               | R                      | GCCTGGGAAGTAAAGCATGA  |                                |
| 9  | <i>BvAAO_9</i>                | F                      | ACCCGAAAACCTTCCCTTCAT | 143                            |
|    |                               | R                      | CATTAGCACCCAAGGCATTT  |                                |
| 10 | <i>BvAAO_10</i>               | F                      | CACAGCGGATCAAGAAGTCA  | 103                            |
|    |                               | R                      | GTTGGAGCCCTGATAGTGGA  |                                |
| 11 | <i>BvAAO_11</i>               | F                      | TGCGGACATTGTTGTGTTTT  | 139                            |
|    |                               | R                      | AAAATGCCCTGTTGACGAAC  |                                |
| 12 | <i>BvAAO_12</i>               | F                      | GTTTTCAAGTGTGGGGAGCAT | 148                            |
|    |                               | R                      | AACCATCCAAATGCCAACTC  |                                |
| 13 | β-actin                       | F                      | ATCCAGGCCGTTCTTTCTCT  | 144                            |
|    |                               | R                      | ACGACCAGCAAGATCCAAAC  |                                |
| 14 | CpG island of <i>BvAAO_3</i>  | F                      | TGCATATGAGCTGGACCAAC  | 244                            |
|    |                               | R                      | TCATGGTCTTCATGGCTCCT  |                                |
| 15 | CpG island of <i>BvAAO_4</i>  | F                      | TGTTTTTGGCTTTGGGACGG  | 307                            |
|    |                               | R                      | GTCAACCTTTTCGCGGTCTT  |                                |
| 16 | CpG island of <i>BvAAO_10</i> | F                      | TCATAACCCTAGACATGGCC  | 177                            |
|    |                               | R                      | CGGTTTCATGTTTGGCTCACT |                                |

**Table S2.** The qPCR efficiency values for the genes analyzed.

| Gene/Region                     | Efficiency |
|---------------------------------|------------|
| <i>BvAAO_3</i>                  | 1,89       |
| <i>BvAAO_4</i>                  | 1,944      |
| <i>BvAAO_10</i>                 | 1,916      |
| <i><math>\beta</math>-actin</i> | 1,946      |
| CpG island of <i>BvAAO_3</i>    | 1,966      |
| CpG island of <i>BvAAO_4</i>    | 1,920      |
| CpG island of <i>BvAAO_10</i>   | 1,933      |