Generation of blue chrysanthemums by anthocyanin B-glucosylation and its coloration mechanism

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Citation Report

#	Article	IF	Citations
1	Relationship between the flavonoid composition and flower colour variation in Victoria. Plant Biology, 2018, 20, 674-681.	1.8	16
2	Recent advances in the research and development of blue flowers. Breeding Science, 2018, 68, 79-87.	0.9	46
3	The Vacuolar Transportome of Plant Specialized Metabolites. Plant and Cell Physiology, 2018, 59, 1326-1336.	1.5	46
4	Reduction of Dihydrokaempferol by Vitis vinfera Dihydroflavonol 4-Reductase to Produce Orange Pelargonidin-Type Anthocyanins. Journal of Agricultural and Food Chemistry, 2018, 66, 3524-3532.	2.4	25
5	Genome engineering in ornamental plants: Current status and future prospects. Plant Physiology and Biochemistry, 2018, 131, 47-52.	2.8	37
6	Inheritance of Bluish Flower Color of Transgenic Chrysanthemum by Interspecific Hybrids. Japan Agricultural Research Quarterly, 2018, 52, 339-345.	0.1	6
7	Flower Color and Its Engineering by Genetic Modification. Handbook of Plant Breeding, 2018, , 29-62.	0.1	12
8	Identification and Characterization of Novel Nemophila menziesii Flavone Glucosyltransferases that Catalyze Biosynthesis of Flavone 7,4â€²-O-Diglucoside, a Key Component of Blue Metalloanthocyanins. Plant and Cell Physiology, 2018, 59, 2075-2085.	1.5	12
9	Molecular mechanisms underlying the diverse array of petal colors in chrysanthemum flowers. Breeding Science, 2018, 68, 119-127.	0.9	39
10	Molecular cloning of flavonoid biosynthetic genes and biochemical characterization of anthocyanin <i>O</i>-methyltransferase of <i>Nemophila menziesii</i> Hook. and Arn.. Plant Biotechnology, 2018, 35, 9-16.	0.5	6
11	Diversity in flower colorations of Ranunculus asiaticus L. revealed by anthocyanin biosynthesis pathway in view of gene composition, gene expression patterns, and color phenotype. Environmental Science and Pollution Research, 2019, 26, 13785-13794.	2.7	4
12	Integrated physiological and genomic analysis reveals structural variations and expression patterns of candidate genes for colored- and green-leaf poplar. Scientific Reports, 2019, 9, 11150.	1.6	8
13	The Sweet Side of Plant-Specialized Metabolism. Cold Spring Harbor Perspectives in Biology, 2019, 11, a034744.	2.3	45
14	Breeding of blue chrysanthemums by genetic engineering. Acta Horticulturae, 2019, , 7-12.	0.1	0
15	Parsley <i>ubiquitin</i> promoter displays higher activity than the CaMV 35S promoter and the chrysanthemum <i>actin 2</i> promoter for productive, constitutive, and durable expression of a transgene in <i>Chrysanthemum morifolium</i>. Breeding Science, 2019, 69, 536-544.	0.9	16
16	Regulatory Sequences for Constitutive, Tissue-Specific, and Induced Expression of Transgenes in Ornamental Plants. Russian Journal of Plant Physiology, 2019, 66, 679-693.	0.5	3
17	A novel R2R3-MYB from grape hyacinth, MaMybA, which is different from MaAN2, confers intense and magenta anthocyanin pigmentation in tobacco. BMC Plant Biology, 2019, 19, 390.	1.6	35
18	Current achievements and future prospects in the genetic breeding of chrysanthemum: a review. Horticulture Research, 2019, 6, 109.	2.9	114

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19	Cloning and Functional Characterization of Dihydroflavonol 4-Reductase Gene Involved in Anthocyanidin Biosynthesis of Grape Hyacinth. International Journal of Molecular Sciences, 2019, 20, 4743.	1.8	23
20	Application of Adaptive Neuro-Fuzzy Inference System-Non-dominated Sorting Genetic Algorithm-II (ANFIS-NSGAII) for Modeling and Optimizing Somatic Embryogenesis of Chrysanthemum. Frontiers in Plant Science, 2019, 10, 869.	1.7	48
21	Metabolite and gene expression analysis reveal the molecular mechanism for petal colour variation in six Centaurea cyanus cultivars. Plant Physiology and Biochemistry, 2019, 142, 22-33.	2.8	20
22	Generation of Yellow Flowers of the Japanese Morning Glory by Engineering Its Flavonoid Biosynthetic Pathway toward Aurones. Plant and Cell Physiology, 2019, 60, 1871-1879.	1.5	18
23	Modeling and Optimizing in vitro Sterilization of Chrysanthemum via Multilayer Perceptron-Non-dominated Sorting Genetic Algorithm-II (MLP-NSGAII). Frontiers in Plant Science, 2019, 10, 282.	1.7	53
24	Repression of anthocyanin biosynthesis by R3-MYB transcription factors in lily (Lilium spp.). Plant Cell Reports, 2019, 38, 609-622.	2.8	43
25	Comprehensive approach and molecular tools for breeding and production of ornamental crops. Acta Horticulturae, 2019, , 1-16.	0.1	4
26	Measuring plant colors. Plant Biotechnology, 2019, 36, 63-75.	0.5	16
27	Modeling and Optimizing Medium Composition for Shoot Regeneration of Chrysanthemum via Radial Basis Function-Non-dominated Sorting Genetic Algorithm-II (RBF-NSGAII). Scientific Reports, 2019, 9, 18237.	1.6	42
28	Ectopic Expression of PAP1 Leads to Anthocyanin Accumulation and Novel Floral Color in Genetically Engineered Goldenrod (Solidago canadensis L.). Frontiers in Plant Science, 2019, 10, 1561.	1.7	6
29	Anthocyanins, multi-functional natural products of industrial relevance: Recent biotechnological advances. Biotechnology Advances, 2020, 43, 107600.	6.0	62
30	Introducing a hybrid artificial intelligence method for high-throughput modeling and optimizing plant tissue culture processes: the establishment of a new embryogenesis medium for chrysanthemum, as a case study. Applied Microbiology and Biotechnology, 2020, 104, 10249-10263.	1.7	26
31	Upregulation of the MYB2 Transcription Factor is Associated with Increased Accumulation of Anthocyanin in the Leaves of Dendrobium bigibbum. International Journal of Molecular Sciences, 2020, 21, 5653.	1.8	10
32	Simultaneous TALEN-mediated knockout of chrysanthemum DMC1 genes confers male and female sterility. Scientific Reports, 2020, 10, 16165.	1.6	20
33	Anthocyanins in Floral Colors: Biosynthesis and Regulation in Chrysanthemum Flowers. International Journal of Molecular Sciences, 2020, 21, 6537.	1.8	52
34	Development of support vector machine-based model and comparative analysis with artificial neural network for modeling the plant tissue culture procedures: effect of plant growth regulators on somatic embryogenesis of chrysanthemum, as a case study. Plant Methods, 2020, 16, 112.	1.9	58
35	Dramatic Increase in Content of Diverse Flavonoids Accompanied with Down-Regulation of F-Box Genes in a Chrysanthemum (Chrysanthemum Ã— morifolium (Ramat.) Hemsl.) Mutant Cultivar Producing Dark-Purple Ray Florets. Genes, 2020, 11, 865.	1.0	7
36	Progress and Challenges in the Improvement of Ornamental Plants by Genome Editing. Plants, 2020, 9, 687.	1.6	27

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37	Overview and detectability of the genetic modifications in ornamental plants. Horticulture Research, 2020, 7, 11.	2.9	44
38	Distribution of cell layers in floral organs of chrysanthemum analyzed with periclinal chimeras carrying a transgene encoding fluorescent protein. Plant Cell Reports, 2020, 39, 609-619.	2.8	2
39	Identification of anthocyanin and other flavonoids from the greenâ€“blue petals of Puya alpestris (Bromeliaceae) and a clarification of their coloration mechanism. Phytochemistry, 2021, 181, 112581.	1.4	10
40	Whole-transcriptome analysis of differentially expressed genes in the mutant and normal capitula of Chrysanthemum morifolium. BMC Genomic Data, 2021, 22, 2.	0.7	15
41	Information on Flower Coloration and Pigmentation in Current Carnation Cultivars for Use in Future Flower-color Breeding. Horticulture Journal, 2021, 90, 428-449.	0.3	4
42	Generation of purple-violet chrysanthemums via anthocyanin B-ring hydroxylation and glucosylation introduced from <i>Osteospermum hybrid F3</i>'<i>5</i>'<i>H</i> and <i>Clitoria ternatea A3</i>'<i>5</i>'<i>GT</i>. Ornamental Plant Research, 2021, 1, 1-9.	0.2	5
43	Genome-Wide Identification and Evolutionary Analysis of AOMT Gene Family in Pomegranate (Punica) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	1.3	4
44	Identification of Chlorophyll Metabolism- and Photosynthesis-Related Genes Regulating Green Flower Color in Chrysanthemum by Integrative Transcriptome and Weighted Correlation Network Analyses. Genes, 2021, 12, 449.	1.0	9
45	Production of petaloid phenotype in the reproductive organs of compound flowerheads by the co-suppression of class-C genes in hexaploid Chrysanthemum morifolium. Planta, 2021, 253, 100.	1.6	10
46	Research advances in and prospects of ornamental plant genomics. Horticulture Research, 2021, 8, 65.	2.9	38
47	Natural Blues: Structure Meets Function in Anthocyanins. Plants, 2021, 10, 726.	1.6	45
48	Insertion of a novel transposable element disrupts the function of an anthocyanin biosynthesis-related gene in Echinacea purpurea. Scientia Horticulturae, 2021, 282, 110021.	1.7	4
49	Light and Autofluorescence, Multitasking Features in Living Organisms. Photochem, 2021, 1, 67-125.	1.3	19
50	Synthetic biology of plant natural products: From pathway elucidation to engineered biosynthesis in plant cells. Plant Communications, 2021, 2, 100229.	3.6	37
51	Identification of Chalcones and their Contribution to Yellow Coloration in Dahlia (<i>Dahlia) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 1	0.3	6
52	Forecasting and optimizing Agrobacterium-mediated genetic transformation via ensemble model- fruit fly optimization algorithm: A data mining approach using chrysanthemum databases. PLoS ONE, 2020, 15, e0239901.	1.1	28
53	Approved genetically modified (GM) horticultural plants: A 25-year perspective. Folia Horticulturae, 2019, 31, 3-49.	0.6	23
54	Flavonoid Metabolic Engineering for Modification of Flower Color in Chrysanthemum. Han'guk Yukchong Hakhoe Chi, 2018, 50, 351-363.	0.2	2

#	Article	IF	Citations
55	High-throughput identification of chrysanthemum gene function and expression: An overview and an effective proposition. Journal of Plant Biotechnology, 2021, 48, 139-147.	0.1	1
56	â€˜True blueâ€™ chrysanthemum flowers produced with genetic engineering. Nature, 0, , .	13.7	1
58	Genetic engineering as a way to obtain ornamental plants with a changed flower color. Plant Biotechnology and Breeding, 2020, 3, 40-45.	0.9	2
59	Flower Pigments Responsible for Cyanic, Yellow, and Cream-White Coloration in Carnation. Compendium of Plant Genomes, 2020, , 61-79.	0.3	5
60	Crossability between Transgenic Blue Chrysanthemums and the Wild Chrysanthemum Species <i>Chrysanthemum japonense</i> var. <i>japonense</i>. Japan Agricultural Research Quarterly, 2020, 54, 335-340.	0.1	1
61	The Flavonoid Biosynthesis Network in Plants. International Journal of Molecular Sciences, 2021, 22, 12824.	1.8	248
62	Peculiarities of the Transformation of Asteraceae Family Species: The Cases of Sunflower and Lettuce. Frontiers in Plant Science, 2021, 12, 767459.	1.7	10
63	Relationships between leaf color changes, pigment levels, enzyme activity, photosynthetic fluorescence characteristics and chloroplast ultrastructure of Liquidambar formosana Hance. Journal of Forestry Research, 2022, 33, 1559-1572.	1.7	6
64	Anthocyanin Biosynthesis and a Regulatory Network of Different-Colored Wheat Grains Revealed by Multiomics Analysis. Journal of Agricultural and Food Chemistry, 2022, 70, 887-900.	2.4	8
65	Biotechnology and induced mutations in ornamental plant improvement. Acta Horticulturae, 2022, , 1-12.	0.1	6
66	Genetic engineering of novel yellow color african violet (Saintpaulia ionantha) produced by accumulation of Aureusidin 6-O-glucoside. Biological Procedures Online, 2022, 24, 3.	1.4	6
67	Flavonoids â€“ flowers, fruit, forage and the future. Journal of the Royal Society of New Zealand, 2023, 53, 304-331.	1.0	9
68	Environmental and Genetic Factors Involved in Plant Protection-Associated Secondary Metabolite Biosynthesis Pathways. Frontiers in Plant Science, 2022, 13, 877304.	1.7	31
69	Anthocyanins from muscadine (Vitis rotundifolia) grape fruit. Current Plant Biology, 2022, 30, 100243.	2.3	13
70	Comparative Transcriptome Analysis Identifies Key Regulatory Genes Involved in Anthocyanin Metabolism During Flower Development in Lycoris radiata. Frontiers in Plant Science, 2021, 12, 761862.	1.7	12
71	Flower color mutation, pink to orange, through CmGATA4 - CCD4a-5 module regulates carotenoids degradation in chrysanthemum. Plant Science, 2022, 322, 111290.	1.7	8
74	Chemistry and Pharmacological Actions of Delphinidin, a Dietary Purple Pigment in Anthocyanidin and Anthocyanin Forms. Frontiers in Nutrition, 2022, 9, 746881.	1.6	19
75	Advances in the application of biosynthesis and metabolic engineering of flavonoids in plants. Biologia Plantarum, 0, 66, 163-171.	1.9	4

#	Article	IF	Citations
76	Anthocyanin-related compounds during flower coloration of Sophora moorcroftiana. European Journal of Horticultural Science, 2022, 87, .	0.3	0
77	Glycoside-specific metabolomics combined with precursor isotopic labeling for characterizing plant glycosyltransferases. Molecular Plant, 2022, 15, 1517-1532.	3.9	21
78	Transcriptome analysis reveals chrysanthemum flower discoloration under high-temperature stress. Frontiers in Plant Science, 0, 13, .	1.7	8
79	Transcriptome and chemical analyses revealed the mechanism of flower color formation in Rosa rugosa. Frontiers in Plant Science, 0, 13, .	1.7	4
80	Targeted metabolome analysis reveals accumulation of metabolites in testa of four peanut germplasms. Frontiers in Plant Science, 0, 13, .	1.7	3
81	ZeMYB9 regulates cyanidin synthesis by activating the expression of flavonoid 3â€²-hydroxylase gene in Zinnia elegans. Frontiers in Plant Science, 0, 13, .	1.7	1
82	Towards the Improvement of Ornamental Attributes in Chrysanthemum: Recent Progress in Biotechnological Advances. International Journal of Molecular Sciences, 2022, 23, 12284.	1.8	11
83	Inter-specific differences of medicinal bioactive products are correlated with differential expressions of key enzyme genes in Scutellaria baicalensis and Scutellaria viscidula. Industrial Crops and Products, 2022, 189, 115758.	2.5	5
84	Ecology: Using CRISPR to switch pollinators. Current Biology, 2022, 32, R1345-R1347.	1.8	0
86	Integrated transcriptomic and metabolomic profiles reveal anthocyanin accumulation in Scutellaria baicalensis petal coloration. Industrial Crops and Products, 2023, 194, 116144.	2.5	4
87	Flower color modification through expression of Aquilegia buergeriana F3â€²5â€²H in Petunia hybrida. Horticulture Environment and Biotechnology, 0, , .	0.7	0
88	Ectopic Expression of PgF3â€²5â€²H in Commercial Gypsophila paniculata Cultivar through Optimized Agrobacterium-Mediated Transformation. Horticulturae, 2023, 9, 321.	1.2	0
89	Ornamental plant gene editing: Past, present and future. Ornamental Plant Research, 2023, 3, 1-6.	0.2	2
90	Genotype Screening of Recipient Resources with High Regeneration and Transformation Efficiency in Chrysanthemum. Phyton, 2022, 91, 869-888.	0.4	1
91	Transcriptomic-based analysis to identify candidate genes for blue color rose breeding. Plant Molecular Biology, 2023, 111, 439-454.	2.0	1
92	Flower color modification through co-overexpression of the VtF3â€²5â€²H and RhNHX genes in Rosa hybrida. Plant Cell, Tissue and Organ Culture, 2023, 153, 403-416.	1.2	4
93	Functional characterization, structural basis, and regio-selectivity control of a promiscuous flavonoid 7,4â€²-di-O-glycosyltransferase from Ziziphus jujuba var. spinosa. Chemical Science, 2023, 14, 4418-4425.	3.7	2
102	Delphinidin: Sources, Biosynthesis, Bioavailability, Bioactivity, and Pharmacology. , 2023, , 1-31.		0

#	Article	IF	Citations
114	Breeding of ornamental orchids with focus on Phalaenopsis: current approaches, tools, and challenges for this century. Heredity, 2024, 132, 163-178.	1.2	1