PROTEIN TARGETING TO STARCH Is Required for Loca SYNTHASE to Starch Granules and for Normal Amylose

PLoS Biology 13, e1002080

DOI: 10.1371/journal.pbio.1002080

Citation Report

#	Article	IF	CITATIONS
1	Molecular genetic analysis of glucan branching enzymes from plants and bacteria in Arabidopsis reveals marked differences in their functions and capacity to mediate starch granule formation. Plant Physiology, 2015, 169, pp.00792.2015.	4.8	11
2	It Takes Two to Tango: A New Partner in Amylose Synthesis. PLoS Biology, 2015, 13, e1002079.	5.6	1
3	In vitro Biochemical Characterization of All Barley Endosperm Starch Synthases. Frontiers in Plant Science, 2015, 6, 1265.	3.6	42
4	50Âyears of Arabidopsis research: highlights and future directions. New Phytologist, 2016, 209, 921-944.	7.3	186
5	The N-terminal Part of Arabidopsis thaliana Starch Synthase 4 Determines the Localization and Activity of the Enzyme. Journal of Biological Chemistry, 2016, 291, 10759-10771.	3.4	47
6	Structure and function of α-glucan debranching enzymes. Cellular and Molecular Life Sciences, 2016, 73, 2619-2641.	5.4	68
7	Degradation of Glucan Primers in the Absence of Starch Synthase 4 Disrupts Starch Granule Initiation in Arabidopsis. Journal of Biological Chemistry, 2016, 291, 20718-20728.	3.4	39
8	The Starch Granule-Associated Protein EARLY STARVATION1 Is Required for the Control of Starch Degradation in <i>Arabidopsis thaliana</i> Leaves. Plant Cell, 2016, 28, 1472-1489.	6.6	64
9	Formation of starch in plant cells. Cellular and Molecular Life Sciences, 2016, 73, 2781-2807.	5.4	268
10	Analysis of the rice ADPglucose transporter (OsBT1) indicates the presence of regulatory processes in the amyloplast stroma that control ADPglucose flux into starch. Plant Physiology, 2016, 170, pp.01911.2015.	4.8	58
11	Potato starch synthases: Functions and relationships. Biochemistry and Biophysics Reports, 2017, 10, 7-16.	1.3	44
12	The starchâ€binding domain family CBM41—An <i>in silico</i> analysis of evolutionary relationships. Proteins: Structure, Function and Bioinformatics, 2017, 85, 1480-1492.	2.6	18
13	Differences in specificity and compensatory functions among three major starch synthases determine the structure of amylopectin in rice endosperm. Plant Molecular Biology, 2017, 94, 399-417.	3.9	34
14	Southeast Asian <i>waxy</i> maize (<i>Zea mays L.</i>), a resource for amylopectin starch quality types?. Plant Genetic Resources: Characterisation and Utilisation, 2017, 15, 430-437.	0.8	6
15	Waxy and non-waxy barley cultivars exhibit differences in the targeting and catalytic activity of GBSS1a. Journal of Experimental Botany, 2017, 68, 931-941.	4.8	25
16	Starch as a source, starch as a sink: the bifunctional role of starch in carbon allocation. Journal of Experimental Botany, 2017, 68, 4433-4453.	4.8	230
17	The Sulfoquinovosyltransferase-like Enzyme SQD2.2 is Involved in Flavonoid Glycosylation, Regulating Sugar Metabolism and Seed Setting in Rice. Scientific Reports, 2017, 7, 4685.	3.3	28
18	Homologs of PROTEIN TARGETING TO STARCH Control Starch Granule Initiation in Arabidopsis Leaves. Plant Cell, 2017, 29, 1657-1677.	6.6	109

#	Article	IF	CITATIONS
19	Leaf Starch Turnover Occurs in Long Days and in Falling Light at the End of the Day. Plant Physiology, 2017, 174, 2199-2212.	4.8	80
20	Systems Genetics Identifies a Novel Regulatory Domain of Amylose Synthesis. Plant Physiology, 2017, 173, 887-906.	4.8	71
21	<i>Arabidopsis thaliana</i> FARâ€RED ELONGATED HYPOCOTYLS3 (FHY3) and FARâ€REDâ€IMPAIRED RESPONS (FAR1) modulate starch synthesis in response to light and sugar. New Phytologist, 2017, 213, 1682-1696.	E1 _{7.3}	49
22	Recent progress toward understanding the role of starch biosynthetic enzymes in the cereal endosperm. Amylase, 2017, 1, .	1.6	32
23	Diurnal Leaf Starch Content: An Orphan Trait in Forage Legumes. Agronomy, 2017, 7, 16.	3.0	32
24	Biosynthesis of waxy starch - a review. Plant, Soil and Environment, 2017, 63, 335-341.	2.2	8
25	Starch Biosynthesis in the Developing Endosperms of Grasses and Cereals. Agronomy, 2017, 7, 81.	3.0	86
26	Integrated regulation triggered by a cryophyte ï‰-3 desaturase gene confers multiple-stress tolerance in tobacco. Journal of Experimental Botany, 2018, 69, 2131-2148.	4.8	35
27	Starch Bioengineering. , 2018, , 179-222.		7
28	Polarimetric second harmonic generation microscopy: An analytical tool for starch bioengineering. Starch/Staerke, 2018, 70, 1700031.	2.1	10
29	Distinct Functions of STARCH SYNTHASE 4 Domains in Starch Granule Formation. Plant Physiology, 2018, 176, 566-581.	4.8	50
30	Chloroplast proteome analysis of Nicotiana tabacum overexpressing TERF1 under drought stress condition. , 2018, 59, 26.		12
31	Functional Roles of Starch Binding Domains and Surface Binding Sites in Enzymes Involved in Starch Biosynthesis. Frontiers in Plant Science, 2018, 9, 1652.	3.6	38
32	Crop resistant starch and genetic improvement: a review of recent advances. Theoretical and Applied Genetics, 2018, 131, 2495-2511.	3.6	31
33	Accelerated ex situ breeding of <i>GBSS</i> - and <i>PTST1</i> -edited cassava for modified starch. Science Advances, 2018, 4, eaat6086.	10.3	111
34	Starch formation inside plastids of higher plants. Protoplasma, 2018, 255, 1855-1876.	2.1	51
35	Plastidial NAD-Dependent Malate Dehydrogenase: A Moonlighting Protein Involved in Early Chloroplast Development through Its Interaction with an FtsH12-FtsHi Protease Complex. Plant Cell, 2018, 30, 1745-1769.	6.6	55
36	Proteome Analysis of Potato Starch Reveals the Presence of New Starch Metabolic Proteins as Well as Multiple Protease Inhibitors. Frontiers in Plant Science, 2018, 9, 746.	3.6	38

#	Article	IF	CITATIONS
37	Parameters of Starch Granule Genesis in Chloroplasts of Arabidopsis thaliana. Frontiers in Plant Science, 2018, 9, 761.	3.6	29
38	Two Plastidial Coiled-Coil Proteins Are Essential for Normal Starch Granule Initiation in Arabidopsis. Plant Cell, 2018, 30, 1523-1542.	6.6	62
39	PII1: a protein involved in starch initiation that determines granule number and size in Arabidopsis chloroplast. New Phytologist, 2019, 221, 356-370.	7.3	31
40	LIKE SEX4 1 Acts as a β-Amylase-Binding Scaffold on Starch Granules during Starch Degradation. Plant Cell, 2019, 31, 2169-2186.	6.6	26
41	Intra-Sample Heterogeneity of Potato Starch Reveals Fluctuation of Starch-Binding Proteins According to Granule Morphology. Plants, 2019, 8, 324.	3.5	11
42	Starch-binding domains as CBM families–history, occurrence, structure, function and evolution. Biotechnology Advances, 2019, 37, 107451.	11.7	83
43	CRISPR/Cas9 mutations in the rice Waxy/GBSSI gene induce allele-specific and zygosity-dependent feedback effects on endosperm starch biosynthesis. Plant Cell Reports, 2019, 38, 417-433.	5.6	45
44	Deletion of BSG1 in Chlamydomonas reinhardtii leads to abnormal starch granule size and morphology. Scientific Reports, 2019, 9, 1990.	3.3	16
45	Protein Targeting to Starch 1 is essential for starchy endosperm development in barley. Journal of Experimental Botany, 2019, 70, 485-496.	4.8	51
46	Starch granule initiation and morphogenesis—progress in Arabidopsis and cereals. Journal of Experimental Botany, 2019, 70, 771-784.	4.8	56
47	Quantitative Proteomic Analysis of the Response to Cold Stress in Jojoba, a Tropical Woody Crop. International Journal of Molecular Sciences, 2019, 20, 243.	4.1	15
48	Reâ€programming of gene expression in the CS 8 rice line overâ€expressing ADP glucose pyrophosphorylase induces a suppressor of starch biosynthesis. Plant Journal, 2019, 97, 1073-1088.	5.7	14
49	Gibberellin causes wide transcriptional modifications in the early stage of grape cluster development. Genomics, 2020, 112, 820-830.	2.9	15
50	Expression of starch-binding factor CBM20 in barley plastids controls the number of starch granules and the level of CO2 fixation. Journal of Experimental Botany, 2020, 71, 234-246.	4.8	3
51	<i>GBSSâ€BINDING PROTEIN</i> , encoding a CBM48 domainâ€containing protein, affects rice quality and yield. Journal of Integrative Plant Biology, 2020, 62, 948-966.	8.5	49
52	Overexpression of a new proline-rich protein encoding Gene CsPRP4 increases starch accumulation in Citrus. Scientia Horticulturae, 2020, 260, 108744.	3.6	4
53	Natural Polymorphisms in Arabidopsis Result in Wide Variation or Loss of the Amylose Component of Starch. Plant Physiology, 2020, 182, 870-881.	4.8	11
54	The A to B of starch granule formation in wheat endosperm. Journal of Experimental Botany, 2020, 71, 1-3.	4.8	13

ARTICLE IF CITATIONS # Morphology, structure, properties and applications of starch ghost: A review. International Journal 7.5 24 55 of Biological Macromolecules, 2020, 163, 2084-2096. Starch and Glycogen Analyses: Methods and Techniques. Biomolecules, 2020, 10, 1020. 29 57 Processing of Thermoplastic Starch., 2020, , 11-19. 3 Amylose in starch: towards an understanding of biosynthesis, structure and function. New 58 109 Phytologist, 2020, 228, 1490-1504. eQTL mapping of the 12S globulin cruciferin gene PGCRURSE5 as a novel candidate associated with 59 3.3 4 starch content in potato tubers. Scientific Reports, 2020, 10, 17168. Genome-wide association studies for waxy starch in cassava. Euphytica, 2020, 216, 1. 1.2 STARCH SYNTHASE5, a Noncanonical Starch Synthase-Like Protein, Promotes Starch Granule Initiation 61 6.6 49 in Arabidopsis. Plant Cell, 2020, 32, 2543-2565. Editorial overview: Evolution of metabolic diversity. Current Opinion in Plant Biology, 2020, 55, A1-A4. 7.1 Starch: A Flexible, Adaptable Carbon Store Coupled to Plant Growth. Annual Review of Plant Biology, 63 18.7 100 2020, 71, 217-245. Identification and validation of mutation points associated with waxy phenotype in cassava. BMC 64 3.6 Plant Biology, 2020, 20, 164. Expression and regulation of genes involved in the reserve starch biosynthesis pathway in hexaploid 5.2 22 65 wheat (Triticum aestivum L.). Crop Journal, 2021, 9, 440-455. Protuberances are organized distinct regions of long-term callus: histological and transcriptomic 5.6 analyses in kiwifruit. Plant Cell Reports, 2021, 40, 637-665. Ectopic Expression of OLEOSIN 1 and Inactivation of GBSS1 Have a Synergistic Effect on Oil 68 3.5 9 Accumulation in Plant Leaves. Plants, 2021, 10, 513. Gene Coexpression Network Analysis Indicates that Hub Genes Related to Photosynthesis and Starch Synthesis Modulate Salt Stress Tolerance in Ulmus pumila. International Journal of Molecular 4.1 STARCH SYNTHASE 4 is required for normal starch granule initiation in amyloplasts of wheat 70 7.3 25 endosperm. New Phytologist, 2021, 230, 2371-2386. Towards targeted starch modification in plants. Current Opinion in Plant Biology, 2021, 60, 102013. 24 Bioactive compounds from blueberry and blackcurrant powder alter the physicochemical and 72 5.212 hypoglycaemic properties of oat bran paste. LWT - Food Science and Technology, 2021, 143, 111167. Proteomics and Post-Translational Modifications of Starch Biosynthesis-Related Proteins in 4.1 Developing Seeds of Rice. International Journal of Molecular Sciences, 2021, 22, 5901.

#	Article	IF	CITATIONS
74	Improving rice eating and cooking quality by coordinated expression of the major starch synthesis-related genes, SSII and Wx, in endosperm. Plant Molecular Biology, 2021, 106, 419-432.	3.9	26
75	The CBM48 domain-containing protein FLO6 regulates starch synthesis by interacting with SSIVb and GBSS in rice. Plant Molecular Biology, 2022, 108, 343-361.	3.9	20
76	Understanding Starch Metabolism in Pea Seeds towards Tailoring Functionality for Value-Added Utilization. International Journal of Molecular Sciences, 2021, 22, 8972.	4.1	10
77	Starch biosynthesis in cereal endosperms: AnÂupdated review over the last decade. Plant Communications, 2021, 2, 100237.	7.7	105
78	Comparative Phosphoproteomic Analysis Reveals the Response of Starch Metabolism to High-Temperature Stress in Rice Endosperm. International Journal of Molecular Sciences, 2021, 22, 10546.	4.1	16
79	The Triple Jags of Dietary Fibers in Cereals: How Biotechnology Is Longing for High FiberGrains. Frontiers in Plant Science, 2021, 12, 745579.	3.6	15
80	Interplay Between the N-Terminal Domains of Arabidopsis Starch Synthase 3 Determines the Interaction of the Enzyme With the Starch Granule. Frontiers in Plant Science, 2021, 12, 704161.	3.6	7
81	CBM20CP, a novel functional protein of starch metabolism in green algae. Plant Molecular Biology, 2022, 108, 363-378.	3.9	6
82	Small-Molecule Probes of Plant Glycopolymer Metabolism. , 2017, , .		2
83	Evolutionary innovations in starch metabolism. Current Opinion in Plant Biology, 2020, 55, 109-117.	7.1	31
85	Chapter 5: Novel Starch‒Derived Topical Delivery Systems. , 2017, , 175-216.		1
86	A Review of Starch Biosynthesis in Relation to the Building Block-Backbone Model. International Journal of Molecular Sciences, 2020, 21, 7011.	4.1	60
87	Recreating the synthesis of starch granules in yeast. ELife, 2016, 5, .	6.0	27
88	Exploring regulatory networks in plants: transcription factors of starch metabolism. PeerJ, 2019, 7, e6841.	2.0	31
89	BETA-AMYLASE9 is a plastidial nonenzymatic regulator of leaf starch degradation. Plant Physiology, 2022, 188, 191-207.	4.8	17
90	Functional Haplotypes and Evolutionary Insight into the Granule-Bound Starch Synthase II (GBSSII) Gene in Korean Rice Accessions (KRICE_CORE). Foods, 2021, 10, 2359.	4.3	14
92	Functional and Structural Characterization of a Novel Isoamylase from Ostreococcus tauri and Role of the N-Terminal Domain. Open Biotechnology Journal, 2020, 14, 1-11.	1.2	0
93	Editing of the starch branching enzyme gene SBE2 generates high-amylose storage roots in cassava. Plant Molecular Biology, 2022, 108, 429-442.	3.9	14

#	Article	IF	CITATIONS
94	Coalescence and directed anisotropic growth of starch granule initials in subdomains of Arabidopsis thaliana chloroplasts. Nature Communications, 2021, 12, 6944.	12.8	21
95	New Techniques in Structural Tailoring of Starch Functionality. Annual Review of Food Science and Technology, 2022, 13, 117-143.	9.9	5
96	The OsNAC23-Tre6P-SnRK1a feed-forward loop regulates sugar homeostasis and grain yield in rice. Molecular Plant, 2022, 15, 706-722.	8.3	52
97	Starch synthase II plays a crucial role in starch biosynthesis and the formation of multienzyme complexes in cassava storage roots. Journal of Experimental Botany, 2022, 73, 2540-2557.	4.8	5
98	Mining of Potential Gene Resources for Breeding Nutritionally Improved Maize. Plants, 2022, 11, 627.	3.5	5
99	Uncovering Pathways Highly Correlated to NUE through a Combined Metabolomics and Transcriptomics Approach in Eggplant. Plants, 2022, 11, 700.	3.5	6

100	Protein targeting to starch 1, a functional	protein of starch biosynthesis in wheat	(Triticum aestivum) Tj ETQq0 0 0 g	rgBT /Overlock 10 Tf
-----	---	---	------------------------------------	----------------------

101	A review of starch, a unique biopolymer – Structure, metabolism and in planta modifications. Plant Science, 2022, 318, 111223.	3.6	79
102	Carbon pathways during transitory starch degradation in Arabidopsis differentially affect the starch granule number and morphology in the dpe2/phs1 mutant background. Plant Physiology and Biochemistry, 2022, 180, 35-41.	5.8	2
103	Genetic Control and High Temperature Effects on Starch Biosynthesis and Grain Quality in Rice. Frontiers in Plant Science, 2021, 12, 757997.	3.6	13
104	Comparative Analysis of the Transcriptomes of Persisting and Abscised Fruitlets: Insights into Plant Hormone and Carbohydrate Metabolism Regulated Self-Thinning of Pecan Fruitlets during the Early Stage. Current Issues in Molecular Biology, 2022, 44, 176-193.	2.4	1
109	Maize STARCH SYNTHESIS REGULATING PROTEIN1 positively regulates starch biosynthesis in rice endosperm. Functional Plant Biology, 2022, , .	2.1	0
110	Three Diverse Granule Preparation Methods for Proteomic Analysis of Mature Rice (Oryza sativa L.) Starch Grain. Molecules, 2022, 27, 3307.	3.8	1
111	Starch metabolism in potato <i>Solanum tuberosum</i> L Vavilovskii Zhurnal Genetiki I Selektsii, 2022, 26, 250-263.	1.1	1
112	A Maize CBM Domain Containing the Protein ZmCBM48-1 Positively Regulates Starch Synthesis in the Rice Endosperm. International Journal of Molecular Sciences, 2022, 23, 6598.	4.1	3
113	Regulation of Amylose Content by Single Mutations at an Active Site in the Wx-B1 Gene in a Tetraploid Wheat Mutant. International Journal of Molecular Sciences, 2022, 23, 8432.	4.1	4
114	Molecular Regulation of Starch Metabolism. Progress in Botany Fortschritte Der Botanik, 2022, , 153-170.	0.3	0
115	Tuning heterologous glucan biosynthesis in yeast to understand and exploit plant starch diversity. BMC Biology, 2022, 20, .	3.8	3

ARTICLE IF CITATIONS # Characterization of the Functions of Starch Synthase IIIb Expressed in the Vegetative Organs of Rice 117 3.10 (<i>Oryza sativa</i> L.). Plant and Cell Physiology, 2023, 64, 94-106. 118 Biosynthesis of starch in tuberous crop plants., 2023, , 83-129. Transcriptomic dissection underlying physiological and anatomical characteristics of poplar wood in 119 response to changes in light intensity and nitrogen availability. Environmental and Experimental 4.2 1 Botany, 2023, 206, 105186. Mechanistic insights into granule-bound starch synthase I (GBSSI.L539P) allele in high amylose starch 3.5 biosynthesis in wheat (Triticum aestivum L.). Functional and Integrative Genomics, 2023, 23, . Near-infrared spectroscopy for early selection of waxy cassava clones via seed analysis. Frontiers in 121 3.6 0 Plant Science, Ö, 14, . Pericarp starch metabolism is associated with caryopsis development and endosperm starch accumulation in common wheat. Plant Science, 2023, 330, 111622. 3.6 Three Starch Synthase IIa (SSIIa) Alleles Reveal the Effect of SSIIa on the Thermal and Rheological 123 Properties, Viscoelasticity, and Eating Quality of Glutinous Rice. International Journal of Molecular 4.1 2 Sciences, 2023, 24, 3726. Structure and genetic regulation of starch formation in sorghum (Sorghum bicolor (L.) Moench) 124 endosperm: A review. International Journal of Biological Macromolecules, 2023, 239, 124315. Genetic Engineering of Starch Biosynthesis in Maize Seeds for Efficient Enzymatic Digestion of Starch 125 4.1 0 during Bioethanol Production. International Journal of Molecular Sciences, 2023, 24, 3927. The comparative, biochemistry, genetics, and evolution of starch metabolism in Chlamydomonas reinhardtii., 2023, , 23-50. Base Editing of EUI1 Improves the Elongation of the Uppermost Internode in Two-Line Male Sterile Rice 127 0 3.1Lines. Agriculture (Switzerland), 2023, 13, 693. FLOURY ENDOSPERM 6 mutations enhance the sugary phenotype caused by the loss of ISOAMYLASE1 in 128 3.6 barley. Theoretical and Applied Genetics, 2023, 136, . Soluble and insoluble î±-glucan synthesis in yeast by enzyme suites derived exclusively from maize 129 4.8 0 endosperm. Plant Physiology, 0, ,. Potato Flour, Oat Bran, and Inulin as Functional Ingredients in Gluten-Free Biscuits: Clycemic Index Reduction and Physicochemical Characterization Improvement. Food and Bioprocess Technology, 4.7 2023, 16, 2825-2836. Gene expression profile of the developing endosperm in durum wheat provides insight into starch 131 3.6 1 biosynthesis. BMC Plant Biology, 2023, 23, . Granule-bound starch synthase in plants: Towards an understanding of their evolution, regulatory mechanisms, applications, and perspectives. Plant Science, 2023, 336, 111843. NnNF-YB1 induced by the potassium fertilizer enhances starch synthesis in rhizomes of Nelumbo 133 5.20 nucifera. Industrial Crops and Products, 2023, 203, 117197. The LSF1–MDH complex functions as a scaffold to recruit \hat{I}^2 -amylase to promote starch degradation. 134 6.6 Plant Cell, 0, , .

			(
#	Article	IF	CITATIONS
135	OsLEA1b Modulates Starch Biosynthesis at High Temperatures in Rice. Plants, 2023, 12, 4070.	3.5	0
136	CRISPR/Cas9: an advanced platform for root and tuber crops improvement. Frontiers in Genome Editing, 0, 5, .	5.2	0
137	Rice LIKE EARLY STARVATION1 cooperates with FLOURY ENDOSPERM6 to modulate starch biosynthesis and endosperm development. Plant Cell, 2024, 36, 1892-1912.	6.6	1
138	Integrated Bioinformatics and Multi-Omics Analyses Reveal Possible Molecular Mechanisms for Seed Starch Content Differences between Glycine max and Cicer arietinum. Agronomy, 2024, 14, 328.	3.0	0
139	A Novel Allele in the Promoter of Wx Decreases Gene Expression and Confers Lower Apparent Amylose Contents in Japonica Rice (Oryza sativa L.). Plants, 2024, 13, 745.	3.5	0