

Table S1. Detailed information and analysis of the physicochemical analysis of the Plasmodesmata Callose Binding Proteins (PDCB) in *Zea mays* L.

Gene name	Gene ID	Protein ID	AA	MW (kDa)	pI	II	AI	GAH	CDS	PSL
<i>ZmPDCB1</i>	Zm00001eb008930	Zm00001eb008930_P001	502	53.51	5.46	35.69	88.43	0.106	3	plas
<i>ZmPDCB2</i>	Zm00001eb018180	Zm00001eb018180_P002	450	45.04	5.96	50.56	75.2	0.099	4	plas
<i>ZmPDCB3</i>	Zm00001eb020170	Zm00001eb020170_P001	190	18.09	4.22	35.12	65.58	0.294	4	vacu
<i>ZmPDCB4</i>	Zm00001eb036160	Zm00001eb036160_P001	482	50.41	7.14	40.68	84	0.067	3	extr
<i>ZmPDCB5</i>	Zm00001eb057700	Zm00001eb057700_P001	277	28.98	9.11	52.27	71.41	-0.012	4	chlo
<i>ZmPDCB6</i>	Zm00001eb063380	Zm00001eb063380_P003	493	50.65	5.02	51.71	65.5	-0.072	3	nucl
<i>ZmPDCB7</i>	Zm00001eb065810	Zm00001eb065810_P001	450	48.39	4.99	31.45	91.47	0.107	4	E.R.
<i>ZmPDCB8</i>	Zm00001eb079780	Zm00001eb079780_P002	134	14.56	7.54	48.48	86.64	0.098	4	chlo
<i>ZmPDCB9</i>	Zm00001eb086020	Zm00001eb086020_P001	81	9.07	8.77	64.04	88.02	-0.272	1	chlo
<i>ZmPDCB10</i>	Zm00001eb091430	Zm00001eb091430_P001	472	50.50	5.88	36.6	83.86	0.056	2	extr
<i>ZmPDCB11</i>	Zm00001eb091470	Zm00001eb091470_P003	531	56.60	6.85	51.12	82.96	-0.048	3	chlo
<i>ZmPDCB12</i>	Zm00001eb092890	Zm00001eb092890_P001	341	34.28	4.43	65.28	76.74	0.142	4	extr
<i>ZmPDCB13</i>	Zm00001eb104740	Zm00001eb104740_P003	573	59.66	4.18	117.03	55.71	-0.369	3	chlo
<i>ZmPDCB14</i>	Zm00001eb106410	Zm00001eb106410_P001	649	68.00	4.75	31.92	71.09	-0.181	5	vacu
<i>ZmPDCB15</i>	Zm00001eb107530	Zm00001eb107530_P001	492	52.77	5.72	37.46	86.28	0.079	4	plas
<i>ZmPDCB16</i>	Zm00001eb108530	Zm00001eb108530_P001	199	19.05	4.5	22.44	77.79	0.351	4	vacu
<i>ZmPDCB17</i>	Zm00001eb108560	Zm00001eb108560_P001	166	15.58	4.58	21.24	65	0.205	3	cyto
<i>ZmPDCB18</i>	Zm00001eb114330	Zm00001eb114330_P002	525	56.13	8.35	43.86	86.48	0.088	1	plas
<i>ZmPDCB19</i>	Zm00001eb117130	Zm00001eb117130_P001	486	51.46	6.18	31.39	86.07	0.049	2	plas
<i>ZmPDCB20</i>	Zm00001eb118810	Zm00001eb118810_P001	116	12.43	8.78	41.35	91.72	0.252	2	extr
<i>ZmPDCB21</i>	Zm00001eb148340	Zm00001eb148340_P001	288	31.09	4.83	50.12	77.57	-0.128	5	pero
<i>ZmPDCB22</i>	Zm00001eb152300	Zm00001eb152300_P001	217	23.73	8.58	45.11	70.18	-0.131	2	chlo
<i>ZmPDCB23</i>	Zm00001eb153770	Zm00001eb153770_P001	496	53.99	5.56	35.25	84.19	-0.029	4	plas
<i>ZmPDCB24</i>	Zm00001eb159110	Zm00001eb159110_P001	365	38.96	9.85	58.08	62.41	-0.532	3	vacu
<i>ZmPDCB25</i>	Zm00001eb171000	Zm00001eb171000_P001	487	51.45	5.89	30.22	88.81	0.097	3	plas
<i>ZmPDCB26</i>	Zm00001eb173140	Zm00001eb173140_P001	177	19.06	6.85	28.64	70.23	-0.119	3	chlo
<i>ZmPDCB27</i>	Zm00001eb181080	Zm00001eb181080_P001	187	19.13	8.46	66	72.78	0.091	3	extr
<i>ZmPDCB28</i>	Zm00001eb211360	Zm00001eb211360_P002	613	62.69	8.13	47.27	71.27	0.003	4	plas
<i>ZmPDCB29</i>	Zm00001eb213180	Zm00001eb213180_P001	483	51.91	4.82	34.64	80.87	-0.033	2	chlo
<i>ZmPDCB30</i>	Zm00001eb214620	Zm00001eb214620_P001	171	17.09	5.41	48.92	82.98	0.332	4	vacu
<i>ZmPDCB31</i>	Zm00001eb217630	Zm00001eb217630_P001	463	47.27	5.08	33.89	80.5	0.066	3	plas
<i>ZmPDCB32</i>	Zm00001eb218220	Zm00001eb218220_P001	492	52.15	4.77	34.3	86.32	0.108	2	plas
<i>ZmPDCB33</i>	Zm00001eb232030	Zm00001eb232030_P001	493	53.14	5.24	24.95	81.14	-0.024	2	plas
<i>ZmPDCB34</i>	Zm00001eb241530	Zm00001eb241530_P001	187	19.02	7.53	65.77	75.94	0.15	3	chlo
<i>ZmPDCB35</i>	Zm00001eb256330	Zm00001eb256330_P001	481	49.82	6.89	30.84	86.15	0.059	3	extr
<i>ZmPDCB36</i>	Zm00001eb292680	Zm00001eb292680_P001	230	21.35	8.07	18.61	60.91	0.272	3	extr
<i>ZmPDCB37</i>	Zm00001eb293960	Zm00001eb293960_P001	481	52.49	8.56	33.41	84.51	-0.01	2	plas
<i>ZmPDCB38</i>	Zm00001eb308660	Zm00001eb308660_P001	492	52.52	5.66	36.33	87.64	0.11	2	plas

<i>ZmPDCB39</i>	Zm00001eb317500	Zm00001eb317500_P001	479	51.59	7.57	33.15	81.38	-0.069	3	chlo
<i>ZmPDCB40</i>	Zm00001eb322450	Zm00001eb322450_P005	544	57.04	5.2	38.15	92.78	0.159	4	chlo
<i>ZmPDCB41</i>	Zm00001eb323330	Zm00001eb323330_P001	584	61.87	8.31	31.34	76.97	-0.122	4	vacu
<i>ZmPDCB42</i>	Zm00001eb323370	Zm00001eb323370_P001	647	68.63	6.83	37.32	71.76	-0.192	5	vacu
<i>ZmPDCB43</i>	Zm00001eb323400	Zm00001eb323400_P001	665	69.61	5.18	29.45	71.8	-0.177	4	E.R.
<i>ZmPDCB44</i>	Zm00001eb325370	Zm00001eb325370_P001	494	52.69	5.71	40.59	85.14	0.078	4	plas
<i>ZmPDCB45</i>	Zm00001eb326830	Zm00001eb326830_P001	198	18.92	5.38	16.82	69.85	0.26	4	golg
<i>ZmPDCB46</i>	Zm00001eb328440	Zm00001eb328440_P002	227	23.03	8.13	53.14	66.39	-0.102	4	chlo
<i>ZmPDCB47</i>	Zm00001eb344710	Zm00001eb344710_P001	233	23.01	4.41	47.92	60.94	-0.054	3	extr
<i>ZmPDCB48</i>	Zm00001eb358960	Zm00001eb358960_P001	309	30.15	4.71	51.19	52.2	-0.108	4	golg_plas
<i>ZmPDCB49</i>	Zm00001eb383570	Zm00001eb383570_P001	176	17.85	5.27	43.56	72.84	0.226	3	extr
<i>ZmPDCB50</i>	Zm00001eb386130	Zm00001eb386130_P001	488	53.47	5.64	35.31	87.52	-0.045	2	plas
<i>ZmPDCB51</i>	Zm00001eb393180	Zm00001eb393180_P001	196	18.40	4.22	29.76	76.53	0.382	4	vacu
<i>ZmPDCB52</i>	Zm00001eb394050	Zm00001eb394050_P001	451	45.40	5.25	56.24	75.21	0.085	4	E.R.
<i>ZmPDCB53</i>	Zm00001eb396820	Zm00001eb396820_P002	484	52.18	6.66	44.51	91.69	0.077	2	chlo
<i>ZmPDCB54</i>	Zm00001eb399910	Zm00001eb399910_P002	665	73.12	8.03	41.77	88.15	0.008	2	plas
<i>ZmPDCB55</i>	Zm00001eb430710	Zm00001eb430710_P002	352	34.39	4.46	64.53	45.26	-0.532	2	chlo
<i>ZmPDCB56</i>	Zm00001eb442360	Zm00001eb442360_P001	436	43.05	5.63	65.99	54.95	-0.343	3	chlo

AA: Number of Amino Acid, MW: Molecular Weight, pI: Isoelectric Point, II: Instability Index, AI: Aliphatic Index, GAH: Grand Average of Hydropathicity, CDS: CDS(number), PSL: Predicted Subcellular Location.

plas: Plasma membrane, vacu: Vacuolar membrane, extr: Extracellular, chlo: Chloroplast, nucl: Nucleus, E.R.: Endoplasmic reticulum, cyto: Cytosol, golg: Golgi apparatus, pero: Peroxisome.

Table S2. Detailed information of the *PDCB* gene family in *Oryza sativa* L.

Gene Name	Gene ID	Protein ID	Protein length(aa)	Gene Name	Gene ID	Protein ID	Protein length(aa)
<i>OsPDCB1</i>	AGIS_Os01g012440	AGIS_Os01g012440.mRNA2	121	<i>OsPDCB25</i>	AGIS_Os06g041370	AGIS_Os06g041370.mRNA1	216
<i>OsPDCB2</i>	AGIS_Os01g037780	AGIS_Os01g037780.mRNA1	279	<i>OsPDCB26</i>	AGIS_Os07g006070	AGIS_Os07g006070.mRNA1	479
<i>OsPDCB3</i>	AGIS_Os01g046320	AGIS_Os01g046320.mRNA1	474	<i>OsPDCB27</i>	AGIS_Os07g028750	AGIS_Os07g028750.mRNA2	540
<i>OsPDCB4</i>	AGIS_Os01g048320	AGIS_Os01g048320.mRNA1	207	<i>OsPDCB28</i>	AGIS_Os07g031320	AGIS_Os07g031320.mRNA1	559
<i>OsPDCB5</i>	AGIS_Os02g003690	AGIS_Os02g003690.mRNA1	489	<i>OsPDCB29</i>	AGIS_Os07g031450	AGIS_Os07g031450.mRNA1	553
<i>OsPDCB6</i>	AGIS_Os02g026600	AGIS_Os02g026600.mRNA1	189	<i>OsPDCB30</i>	AGIS_Os07g031480	AGIS_Os07g031480.mRNA1	577
<i>OsPDCB7</i>	AGIS_Os02g048590	AGIS_Os02g048590.mRNA1	513	<i>OsPDCB31</i>	AGIS_Os07g031490	AGIS_Os07g031490.mRNA1	561
<i>OsPDCB8</i>	AGIS_Os03g010260	AGIS_Os03g010260.mRNA1	504	<i>OsPDCB32</i>	AGIS_Os07g031530	AGIS_Os07g031530.mRNA1	602
<i>OsPDCB9</i>	AGIS_Os03g016310	AGIS_Os03g016310.mRNA1	488	<i>OsPDCB33</i>	AGIS_Os07g034740	AGIS_Os07g034740.mRNA1	498
<i>OsPDCB10</i>	AGIS_Os03g023010	AGIS_Os03g023010.mRNA1	478	<i>OsPDCB34</i>	AGIS_Os07g036680	AGIS_Os07g036680.mRNA1	194
<i>OsPDCB11</i>	AGIS_Os03g024950	AGIS_Os03g024950.mRNA1	492	<i>OsPDCB35</i>	AGIS_Os07g039480	AGIS_Os07g039480.mRNA1	218
<i>OsPDCB12</i>	AGIS_Os03g027200	AGIS_Os03g027200.mRNA1	188	<i>OsPDCB36</i>	AGIS_Os08g003090	AGIS_Os08g003090.mRNA1	129
<i>OsPDCB13</i>	AGIS_Os03g039010	AGIS_Os03g039010.mRNA1	492	<i>OsPDCB37</i>	AGIS_Os08g011400	AGIS_Os08g011400.mRNA1	494
<i>OsPDCB14</i>	AGIS_Os03g040160	AGIS_Os03g040160.mRNA1	518	<i>OsPDCB38</i>	AGIS_Os08g013250	AGIS_Os08g013250.mRNA1	577
<i>OsPDCB15</i>	AGIS_Os03g047370	AGIS_Os03g047370.mRNA1	175	<i>OsPDCB39</i>	AGIS_Os08g021470	AGIS_Os08g021470.mRNA1	499
<i>OsPDCB16</i>	AGIS_Os03g050310	AGIS_Os03g050310.mRNA1	491	<i>OsPDCB40</i>	AGIS_Os08g038490	AGIS_Os08g038490.mRNA1	506
<i>OsPDCB17</i>	AGIS_Os03g053930	AGIS_Os03g053930.mRNA1	575	<i>OsPDCB41</i>	AGIS_Os09g017930	AGIS_Os09g017930.mRNA1	488
<i>OsPDCB18</i>	AGIS_Os03g055000	AGIS_Os03g055000.mRNA1	474	<i>OsPDCB42</i>	AGIS_Os09g038240	AGIS_Os09g038240.mRNA1	480
<i>OsPDCB19</i>	AGIS_Os05g038100	AGIS_Os05g038100.mRNA1	228	<i>OsPDCB43</i>	AGIS_Os09g043130	AGIS_Os09g043130.mRNA1	549
<i>OsPDCB20</i>	AGIS_Os05g040250	AGIS_Os05g040250.mRNA1	406	<i>OsPDCB44</i>	AGIS_Os10g015600	AGIS_Os10g015600.mRNA1	344
<i>OsPDCB21</i>	AGIS_Os05g044440	AGIS_Os05g044440.mRNA2	281	<i>OsPDCB45</i>	AGIS_Os11g000020	AGIS_Os11g000020.mRNA1	331
<i>OsPDCB22</i>	AGIS_Os06g006010	AGIS_Os06g006010.mRNA1	194	<i>OsPDCB46</i>	AGIS_Os11g031490	AGIS_Os11g031490.mRNA1	492
<i>OsPDCB23</i>	AGIS_Os06g030700	AGIS_Os06g030700.mRNA1	186	<i>OsPDCB47</i>	AGIS_Os11g041740	AGIS_Os11g041740.mRNA1	472
<i>OsPDCB24</i>	AGIS_Os06g034950	AGIS_Os06g034950.mRNA1	483				