SUPPLEMENTAL MATERIAL

SUPPLEMENTARY TABLES

Supplementary Table S1: Glycan array binding of EEA at a concentration of 200µg/ml: list of glycan structures ranked from highest relative fluorescence untis (RFU) to lowest.

EEA3-Alexa488 at 200ug/ml cfg_rRequest_904 array-333211

Glycan Number	Glycan name	Avg RFU	StDev	SEM	%CV
198	Manα1-6(Manα1-3)Manα1-6(Manα1-3)Manβ1-4GlcNAcβ1-4 GlcNAcβ-Sp12	50258	13085	6542	26
99	Galα1-3(Fucα1-2)Galβ–Sp8	49370	15825	7912	32
98	Galα1-3(Fucα1-2)Galβ1-4Glcβ-Sp0	47659	15351	7676	32
290	Galα1-3(Fucα1-2)Galβ–Sp18	45917	15683	7841	34
197	Manα1-6(Manα1-3)Manα1-6(Manα2Manα1-3)Manβ1-4GlcNAcβ1-4GlcNAcβ-Sp12	40788	6906	3453	17
310	Manα1-3(Manα1-6)Manβ1-4GlcNAcβ1-4GlcNAcβ-Sp12	37819	7060	3530	19
192	Manα1-6(Manα1-2Manα1-3)Manα1-6(Manα2Manα1-3)Manβ1-4GlcNAcβ1-4GlcNAcβ-Sp12	36914	8601	4301	23
97	Galα1-3(Fucα1-2)Galβ1-4GlcNAc-Sp0	35329	1700	850	5
95	Galα1-3(Fucα1-2)Galβ1-3GlcNAcβ-Sp0	35176	4455	2228	13
50	Manα1-3(Manα1-6)Manβ1-4GlcNAcβ1-4GlcNAcβ-Sp13	30930	20296	10148	66
61	Fucα1-2Galβ1-3GlcNAcβ1-3Galβ1-4Glcβ–Sp10	24615	2171	1085	9
193	Manα1-2Manα1-6(Manα1-3)Manα1-6(Manα2Manα2Manα1-3)Manβ1-4GlcNAcβ1-4GlcNAcβ-Sp12	24511	2120	1060	9
241	Galβ1-4GlcNAcβ1-2Manα1-3(Fucα1-3(Galβ1-4)GlcNAcβ1-2Manα1-6)Manβ1-4GlcNAcβ1-4GlcNAcβ-Sp20	23203	813	407	4
63	Fucα1-2Galβ1-3GlcNAcβ–Sp0	21920	14903	7452	68
312	Manα1-6(Manα1-3)Manα1-6(Manα1-3)Manβ-Sp10	19915	2938	1469	15
69	Fucα1-2Galβ1-4GlcNAcβ1-3Galβ1-4GlcNAc–Sp0	19799	4998	2499	25
172	(GlcNAcβ1-4)5β-Sp8	12800	894	447	7
201	Fucα1-3(Galβ1-4)GlcNAcβ1-2Manα1-3(Fucα1-3(Galβ1-4)GlcNAcβ1-2Manα1-6)Manβ1-4GlcNAcβ1-4GlcNAcβ-Sp20	11885	3324	1662	28
62	Fucα1-2Galβ1-3GlcNAcβ1-3Galβ1-4Glcβ–Sp8	9804	11082	5541	113

52	Galβ1-4GlcNAcβ1-2Manα1-3(Galβ1-4GlcNAcβ1-2Manα1-6)Manβ1-4GlcNAcβ1-4GlcNAcβ-Sp13	9560	1937	968	20
64	Fucα1-2Galβ1-3GlcNAcβ–Sp8	7994	1204	602	15
173	GlcNAcβ1-4GlcNAcβ1-4GlcNAcβ–Sp8	7530	882	441	12
79	GalNAcα1-3(Fucα1-2)Galβ1-3GlcNAcβ-Sp0	7512	1579	790	21
105	Galα1-3Galβ1-4GlcNAcβ–Sp8	6872	1670	835	24
171	(GlcNAcβ1-4)6β-Sp8	6402	574	287	9
51	GlcNAcβ1-2Manα1-3(GlcNAcβ1-2Manα1-6)Manβ1-4GlcNAcβ1-4GlcNAcβ-Sp13	6356	733	366	12
87	GalNAcα1-4(Fucα1-2)Galβ1-4GlcNAcβ-Sp8	6044	860	430	14
313	Manα1-2Manα1-2Manα1-3(Manα1-2Manα1-6(Manα1-3)Manα1-6)Manα-Sp9	5900	683	342	12
70	Fucα1-2Galβ1-4GlcNAcβ1-3Galβ1-4GlcNAcβ1-3Galβ1-4GlcNAcβ-Sp0	5641	1750	875	31
72	Fucα1-2Galβ1-4GlcNAcβ–Sp8	4881	3933	1967	81
103	Galα1-3Galβ1-4(Fucα1-3)GlcNAcβ–Sp8	4514	518	259	11
194	Manα1-2Manα1-2Manα1-3(Manα1-2Manα1-3(Manα1-2Manα1-6)Manα1-6)Manβ1-4GlcNAcβ1-4GlcNAcβ-Sp12	3896	1872	936	48
112	Galα1-4GlcNAcβ–Sp8	3204	1928	964	60
86	GalNAcα1-3Galβ–Sp8	2835	423	211	15
10	α-GalNAc–Sp8	2805	379	190	14
270	Fucα1-2Galβ1-4[6OSO3]GlcNAc-Sp8	2543	483	242	19
156	GlcNAcα1-3Galβ1-4GlcNAcβ-Sp8	2063	117	59	6
305	GlcNAcβ1-2Manα1-3(GlcNAcβ1-2Manα1-6)Manβ1-4GlcNAcβ1-4GlcNAcβ-Sp12	1914	637	319	33
94	Galα1-2Galβ–Sp8	1900	343	171	18
307	GlcNAcβ1-4GlcNAcβ-Sp10	1852	243	121	13
309	HOOC(CH3)CH-3-O-GlcNAcβ1-4GlcNAcβ-Sp10	1786	175	87	10
314	Manα1-2Manα1-2Manα1-3(Manα1-2Manα1-6(Manα1-2Manα1-3)Manα1-6)Manα-Sp9	1775	201	100	11
319	Neu5Acα2-6Galβ1-4GlcNAcβ1-2Manα1-3(Galβ1-4GlcNAcβ1-2Manα1-6)Manβ1-4GlcNAcβ1-4GlcNAcβ-Sp12	1752	134	67	8
308	GlcNAcβ1-4GlcNAcβ-Sp12	1700	103	52	6
104	Galα1-3Galβ1-3GlcNAcβ-Sp0	1530	495	248	32
57	Fucα1-2Galβ1-3(Fucα1-4)GlcNAcβ–Sp8	1402	128	64	9
111	Galα1-4Galβ1-4Glcβ–Sp0	1337	252	126	19
300	GalNAcα-Sp15	1321	203	101	15
92	GalNAcβ1-4GlcNAcβ–Sp0	1277	217	109	17
176	GlcNAcβ1-6Galβ1-4GlcNAcβ-Sp8	1245	280	140	22
195	Manα1-3(Manα1-6)Manα–Sp9	1136	350	175	31

175	GlcNAcβ1-6GalNAcα–Sp8	1128	85	43	8
100	Galα1-3(Galα1-4)Galβ1-4GlcNAcβ-Sp8	1124	114	57	10
68	Fucα1-2Galβ1-4(Fucα1-3)GlcNAcβ–Sp8	992	197	98	20
91	GalNAcβ1-4(Fucα1-3)GlcNAcβ-Sp0	991	974	487	98
85	GalNAcα1-3GalNAcβ–Sp8	937	384	192	41
190	Manα1-2Manα1-3(Manα1-2Manα1-6)Manα-Sp9	920	286	143	31
67	Fucα1-2Galβ1-4(Fucα1-3)GlcNAcβ–Sp0	866	145	72	17
93	GalNAcβ1-4GlcNAcβ–Sp8	830	86	43	10
106	Galα1-3Galβ1-4Glcβ–Sp0	797	269	135	34
82	GalNAcα1-3(Fucα1-2)Galβ1-4GlcNAcβ–Sp8	793	103	52	13
196	Manα1-3(Manα1-2Manα1-2Manα1-6)Manα-Sp9	723	187	93	26
65	Fucα1-2Galβ1-4(Fucα1-3)GlcNAcβ1-3Galβ1-4(Fucα1-3)GlcNAcβ-Sp0	720	91	46	13
107	Galα1-3Galβ–Sp8	668	225	113	34
168	GlcNAcβ1-4MDPLys	657	62	31	9
155	Galβ1-4Glcβ–Sp8	651	157	79	24
301	GalNAcα1-3(Fucα1-2)Galβ–Sp18	613	276	138	45
160	GlcNAcβ1-3(GlcNAcβ1-6)Galβ1-4GlcNAcβ–Sp8	594	168	84	28
297	Galβ1-4GlcNAcβ1-3(GlcNAcβ1-6)Galβ1-4GlcNAc-Sp0	590	95	48	16
151	Galβ1-4GlcNAcβ1-6GalNAcα–Sp8	581	338	169	58
110	Galα1-4Galβ1-4GlcNAcβ–Sp8	543	145	73	27
128	Galβ1-3GalNAcβ1-4(Neu5Acα2-3)Galβ1-4Glcβ-Sp0	525	300	150	57
157	GlcNAcα1-6Galβ1-4GlcNAcβ-Sp8	522	122	61	23
167	GlcNAcβ1-3Galβ1-4Glcβ–Sp0	504	104	52	21
304	GlcNAcβ1-2Manα1-3(Neu5Acα2-6Galβ1-4GlcNAcβ1-2Manα1-6)Manβ1-4GlcNAcβ1-4GlcNAcβ-Sp12	485	227	113	47
320	Neu5Acα2-6Galβ1-4GlcNAcβ1-2Manα1-3(GlcNAcβ1-2Manα1-6)Manβ1-4GlcNAcβ1-4GlcNAcβ-Sp12	477	101	51	21
169	GlcNAcβ1-4(GlcNAcβ1-6)GalNAcα-Sp8	460	91	46	20
66	Fucα1-2Galβ1-4(Fucα1-3)GlcNAcβ1-3Galβ1-4(Fucα1-3)GlcNAcβ1-3Galβ1-4(Fucα1-3)GlcNAcβ-Sp0	441	197	99	45
166	GlcNAcβ1-3Galβ1-4GlcNAcβ1-3Galβ1-4GlcNAcβ-Sp0	440	143	72	33
109	Galα1-4Galβ1-4GlcNAcβ–Sp0	432	247	123	57
164	GlcNAcβ1-3Galβ1-4GlcNAcβ–Sp0	406	53	26	13
14	α-Neu5Ac–Sp8	383	172	86	45
139	Galβ1-4[6OSO3]Glcβ–Sp0	379	157	78	41

159	GlcNAcβ1-3(GlcNAcβ1-6)GalNAcα–Sp8	375	81	41	22
265	[3OSO3]Galβ1-4(Fucα1-3)(6OSO3)Glc-Sp0	364	193	96	53
163	GlcNAcβ1-3Galβ1-3GalNAcα-Sp8	359	149	74	41
293	Galβ1-3(Neu5Acα2-3Galβ1-4(Fucα1-3)GlcNAcβ1-6)GalNAc–Sp14	351	279	140	80
222	Neu5Acα2-3Galβ-Sp8	328	106	53	32
247	Neu5Acα2-6Galβ1-4GlcNAcβ1-3Galβ1-4(Fucα1-3)GlcNAcβ1-3Galβ1-4(Fucα1-3)GlcNAcβ-Sp0	308	119	60	39
58	Fucα1-2Galβ1-3GalNAcα–Sp8	307	106	53	34
81	GalNAcα1-3(Fucα1-2)Galβ1-4GlcNAcβ-Sp0	306	135	68	44
191	Manα1-2Manα1-3Manα-Sp9	305	79	40	26
218	NeuAcα2-3Galβ1-3(Fucα1-4)GlcNAcβ1-3Galβ1-4(Fucα1-3)GlcNAcβ Sp0	287	27	13	9
272	Fucα1-2-(6OSO3)-Galβ1-4Glc-Sp0	282	207	103	73
165	GlcNAcβ1-3Galβ1-4GlcNAcβ-Sp8	272	82	41	30
71	Fucα1-2Galβ1-4GlcNAcβ–Sp0	272	107	53	39
142	Galβ1-4GalNAcβ1-3(Fucα1-2)Galβ1-4GlcNAcβ-Sp8	271	67	34	25
126	Galβ1-3GalNAcβ–Sp8	269	54	27	20
36	[3OSO3]Galβ1-4GlcNAcβ–Sp0	267	195	97	73
96	Galα1-3(Fucα1-2)Galβ1-4(Fucα1-3)GlcNAcβ-Sp0	265	16	8	6
170	GlcNAcβ1-4Galβ1-4GlcNAcβ-Sp8	265	108	54	41
150	Galβ1-4GlcNAcβ1-6(Galβ1-3)GalNAcα–Sp8	262	81	40	31
5	Galβ1-3GlcNAcβ1-2Manα1-3(Galβ1-3GlcNAcβ1-2Manα1-6)Manβ1-4GlcNAcβ1-4GlcNAcβ-Sp19	261	175	87	67
130	Galβ1-3Galβ–Sp8	255	150	75	59
143	Neu5Acα2-3Galβ1-4GlcNAcβ1-2Manα1-3(Neu5Acα2-3Galβ1-4GlcNAcβ1-2Manα1-6)Manβ1-4GlcNAcβ1-4GlcNAcβ-Sp12	255	23	12	9
243	Neu5Acα2-6GalNAcβ1-4GlcNAcβ-Sp0	255	140	70	55
135	Galβ1-4(Fucα1-3)GlcNAcβ–Sp0	252	71	35	28
280	Galβ1-4[Fucα1-3][6OSO3]GlcNAc-Sp0	252	78	39	31
59	Fucα1-2Galβ1-3GalNAcβ1-4(Neu5Acα2-3)Galβ1-4Glcβ-Sp0	243	127	63	52
288	[6OSO3]Galβ1-4[6OSO3]GlcNacβ-Sp0	242	114	57	47
45	[6OSO3]Galβ1-4[6OSO3]Glcβ-Sp8	240	78	39	33
202	Neu5Acα2-3Galβ1-3GalNAcα-Sp8	239	48	24	20
129	Galβ1-3GalNAcβ1-4Galβ1-4Glcβ–Sp8	239	43	22	18
84	GalNAcα1-3(Fucα1-2)Galβ–Sp8	236	82	41	35

189	Manα1-2Manα1-2Manα1-3Manα-Sp9	234	51	25	22
174	GlcNAcβ1-6(Galβ1-3)GalNAcα–Sp8	234	30	15	13
76	Fucα1-3GlcNAcβ-Sp8	231	135	68	58
44	[6OSO3]Galβ1-4GlcNAcβ–Sp8	230	150	75	65
267	[3OSO3]Galβ1-4[Fucα1-3][6OSO3]GlcNAc-Sp8	230	122	61	53
136	Galβ1-4(Fucα1-3)GlcNAcβ–Sp8	229	84	42	37
12	α-L-Fuc–Sp9	228	131	66	57
47	[6OSO3]GlcNAcβ–Sp8	224	73	37	33
108	Galα1-4(Fucα1-2)Galβ1-4GlcNAcβ-Sp8	222	105	53	47
17	β-D-Gal–Sp8	220	77	38	35
258	Neu5Gca2-3Galβ1-3GlcNAcβ-Sp0	217	78	39	36
7	α-D-Gal–Sp8	217	62	31	29
260	Neu5Gcα2-3Galβ1-4GlcNAcβ–Sp0	217	85	43	39
145	Galβ1-4GlcNAcβ1-3Galβ1-4(Fucα1-3)GlcNAcβ1-3Galβ1-4(Fucα1-3)GlcNAcβ-Sp0	216	102	51	47
232	Neu5Acα2-3Galβ1-4(Fucα1-3)GlcNAcβ1-3Galβ-Sp8	215	102	51	47
302	GalNAcβ1-3Galβ-Sp8	214	83	42	39
311	Manα1-6Manβ-Sp10	208	77	39	37
137	Galβ1-4(Fucα1-3)GlcNAcβ1-4Galβ1-4(Fucα1-3)GlcNAcβ-Sp0	208	84	42	41
158	GlcNAcβ1-2Galβ1-3GalNAcα–Sp8	206	119	60	58
229	Neu5Acα2-3Galβ1-4(Fucα1-3)GlcNAcβ1-3Galβ1-4(Fucα1-3)GlcNAcβ1-3Galβ1-4(Fucα1-3)GlcNAcβ–Sp0	201	36	18	18
122	Galβ1-3(Neu5Acα2-6)GalNAcα-Sp8	200	63	32	32
281	Galβ1-4[Fucα1-3][6OSO3]Glc-Sp0	200	111	55	56
28	[3OSO3]Galβ1-4Glcβ-Sp8	199	55	27	27
34	[3OSO3]Galβ1-4(Fucα1-3)GlcNAcβ–Sp8	199	63	31	32
219	Neu5Acα2-3Galβ1-3(Neu5Acα2-3Galβ1-4)GlcNAcβ-Sp8	199	68	34	34
263	Neu5Gcα2-6Galβ1-4GlcNAcβ–Sp0	197	46	23	23
154	Galβ1-4Glcβ–Sp0	197	98	49	50
187	KDNα2-3Galβ1-3GlcNAcβ–Sp0	195	32	16	16
249	Neu5Acα2-6Galβ1-4Glcβ–Sp0	194	80	40	41
235	Neu5Acα2-3Galβ1-4GlcNAcβ1-3Galβ1-4GlcNAcβ1-3Galβ1-4GlcNAcβ–Sp0	194	125	63	65
23	β-GlcN(Gc)-Sp8	193	63	31	32
148	Galβ1-4GlcNAcβ1-3Galβ1-4Glcβ–Sp0	186	151	76	81

318	Neu5Acα2-3Galβ1-4GlcNAcβ1-2Manα1-3(Neu5Acα2-6Galβ1-4GlcNAcβ1-2Manα1-6)Manβ1-4GlcNAcβ1-4GlcNAcβ-Sp12	186	127	63	68
230	Neu5Acα2-3Galβ1-4(Fucα1-3)GlcNAcβ–Sp0	183	27	13	15
115	Galβ1-3(Fucα1-4)GlcNAcβ1-3Galβ1-4(Fucα1-3)GlcNAcβ-Sp0	183	75	38	41
54	Neu5Acα2-6Galβ1-4GlcNAcβ1-2Manα1-3(Neu5Acα2-6Galβ1-4GlcNAcβ1-2Manα1-6)Manβ1-4GlcNAcβ1-4GlcNAcβ-Sp8	183	69	34	38
40	[4OSO3]Galβ1-4GlcNAcβ-Sp8	182	71	36	39
133	Galβ1-3GlcNAcβ–Sp0	182	99	50	54
292	Galβ1-3GalNAcα-Sp16	181	141	70	78
226	Neu5Acα2-3Galβ1-3GlcNAcβ–Sp8	181	133	66	73
287	[3OSO3][4OSO3]Galβ1-4GlcNacβ-SpSp0	181	55	27	30
20	β-GalNAc–Sp8	180	83	41	46
114	Galβ1-2Galβ–Sp8	180	112	56	62
224	NeuAcα2-3Galβ1-3GlcNAcβ1-3Galβ1-4GlcNAcβ-Sp0	179	111	56	62
120	Galβ1-3(Galβ1-4GlcNAcβ1-6)GalNAcα-Sp8	178	76	38	43
74	Fucα1-2Galβ–Sp8	176	96	48	55
162	GlcNAcβ1-3Galβ-Sp8	174	114	57	66
246	Neu5Acα2-6Galβ1-4GlcNAcβ–Sp8	171	120	60	70
113	Galα1-6Glcβ-Sp8	170	87	43	51
88	GalNAcβ1-3GalNAcα–Sp8	170	134	67	79
271	Fucα1-2[6OSO3]Galβ1-4[6OSO3]Glc-Sp0	170	35	17	20
83	GalNAcα1-3(Fucα1-2)Galβ1-4Glcβ-Sp0	168	73	36	43
80	GalNAcα1-3(Fucα1-2)Galβ1-4(Fucα1-3)GlcNAcβ-Sp0	168	53	26	31
276	Galβ1-3(GlcNacβ1-6)GalNAc-Sp14	166	80	40	48
24	(Galβ1-4GlcNAcβ)2-3,6-GalNAcα–Sp8	166	89	44	53
269	Fucα1-2[6OSO3]Galβ1-4GlcNAc-Sp0	166	99	49	59
161	GlcNAcβ1-3GalNAcα–Sp8	166	78	39	47
26	[3OSO3][6OSO3]Galβ1-4[6OSO3]GlcNAcβ-Sp0	164	80	40	49
199	Neu5Acα2-6Galβ1-4GlcNAcβ1-2Manα1-3(Neu5Acα2-3Galβ1-4GlcNAcβ1-2Manα1-6)Manβ1-4GlcNAcβ1-4GlcNAcβ-Sp12	164	99	49	60
6	Neu5Acα2-6Galβ1-4GlcNAcβ1-2Manα1-3(Neu5Acα2-6Galβ1-4GlcNAcβ1-2Manα1-6)Manβ1-4GlcNAcβ1-4GlcNAcβ-Sp12	162	82	41	51
39	[4OSO3][6OSO3]Galβ1-4GlcNAcβ-Sp0	161	45	22	28

134	Galβ1-3GlcNAcβ–Sp8	161	31	15	19
32	[3OSO3]Galβ1-3GalNAcα–Sp8	160	63	31	39
251	Neu5Acα2-6Galβ–Sp8	158	79	39	50
217	Neu5Acα2-3Galβ1-3(Fucα1-4)GlcNAcβ–Sp8	157	62	31	39
237	Neu5Acα2-3Galβ1-4GlcNAcβ–Sp8	156	56	28	36
299	Galβ1-4GlcNAcβ1-6Galβ1-4GlcNAcβ-Sp0	156	79	39	50
184	GlcAβ-Sp8	156	44	22	28
75	Fucα1-3GlcNAcβ-Sp8	154	84	42	54
264	Neu5Gcα–Sp8	153	46	23	30
31	[3OSO3]Galβ1-3(Fucα1-4)GlcNAcβ–Sp8	153	115	58	76
295	Galβ1-4GlcNAcβ1-2Manα1-3(Neu5Acα2-6Galβ1-4GlcNAcβ1-2Manα1-6)Manβ1-4GlcNAcβ1-4GlcNAcβ-Sp12	152	98	49	64
118	Galβ1-3(Fucα1-4)GlcNAc–Sp8	151	23	12	15
256	Galβ1-4GlcNAcβ1-2Manα1-3(Neu5Acα2-6Galβ1-4GlcNAcβ1-2Manα1-6)Manβ1-4GlcNAcβ1-4GlcNAcβ-Sp21	150	56	28	37
2	Neu5Acα2-8Neu5Acβ-Sp17	149	128	64	86
182	G-ol-Sp8	148	62	31	42
132	Galβ1-3GlcNAcβ1-3Galβ1-4Glcβ–Sp10	148	55	27	37
188	KDNα2-3Galβ1-4GlcNAcβ–Sp0	148	100	50	68
185	GlcAβ1-3Galβ-Sp8	148	74	37	50
140	Galβ1-4[6OSO3]Glcβ–Sp8	147	99	49	67
231	Neu5Acα2-3Galβ1-4(Fucα1-3)GlcNAcβ–Sp8	146	24	12	16
203	NeuAcα2-8NeuAcα2-8NeuAcα2-8NeuAcα2-3(GalNAcβ1-4)Galβ1-4Glcβ-Sp0	146	60	30	41
138	Galβ1-4(Fucα1-3)GlcNAcβ1-4Galβ1-4(Fucα1-3)GlcNAcβ1-4Galβ1-4(Fucα1-3)GlcNAcβ–Sp0	146	24	12	17
178	Glcα1-4Glca–Sp8	145	87	43	60
90	GalNAcβ1-3Galα1-4Galβ1-4GlcNAcβ-Sp0	144	47	24	33
37	[3OSO3]Galβ1-4GlcNAcβ-Sp8	143	34	17	24
141	Galβ1-4GalNAcα1-3(Fucα1-2)Galβ1-4GlcNAcβ-Sp8	143	52	26	37
49	9NAcNeu5Acα2-6Galβ1-4GlcNAcβ-Sp8	141	90	45	64
186	GlcAβ1-6Galβ-Sp8	140	30	15	22
268	[3OSO3]Galβ1-4[Fucα1-3]GlcNAc-Sp0	140	91	46	65
261	Neu5Gcα2-3Galβ1-4Glcβ–Sp0	137	73	37	53
209	Neu5Acα2-3(GalNAcβ1-4)Galβ1-4GlcNAcβ-Sp0	137	124	62	91
89	GalNAcβ1-3(Fucα1-2)Galβ-Sp8	135	83	42	62

35	[3OSO3]Galβ1-4[6OSO3]GlcNAcβ-Sp8	135	72	36	53
177	Glcα1-4Glcβ–Sp8	134	55	27	41
101	Galα1-3GalNAcα-Sp8	134	136	68	102
56	Fucα1-2Galβ1-3GalNAcβ1-3Galα1-4Galβ1-4Glcβ-Sp9	133	73	36	55
228	Neu5Acα2-3Galβ1-4(Fucα1-3)(6OSO3)GlcNAcβ–Sp8	133	64	32	48
183	GlcAa-Sp8	132	88	44	67
274	Galβ1-3(Fucα1-4)GlcNAcβ1-3Galβ1-3(Fucα1-4)GlcNAcβ-Sp0	132	83	41	63
121	Galβ1-3(GlcNAcβ1-6)GalNAcα-Sp8	130	50	25	38
236	Neu5Acα2-3Galβ1-4GlcNAcβ–Sp0	130	75	38	58
48	9NAcNeu5Acα-Sp8	130	60	30	46
11	α-L-Fuc–Sp8	128	105	52	82
22	β-GlcNAc–Sp8	127	121	60	95
19	β-D-Man–Sp8	126	133	66	105
1	Neu5Acα2-8Neu5Acα-Sp8	126	50	25	39
123	Galβ1-3(Neu5Acβ2-6)GalNAcα-Sp8	126	44	22	35
255	Neu5Acβ2-6Galβ1-4GlcNAcβ-Sp8	125	42	21	33
257	Neu5Gca2-3Galβ1-3(Fucα1-4)GlcNAcβ-Sp0	125	60	30	48
266	[3OSO3]Galβ1-4(Fucα1-3)Glc-Sp0	121	71	36	59
234	Neu5Acα2-3Galβ1-4GlcNAcβ1-3Galβ1-4(Fucα1-3)GlcNAc-Sp0	120	45	22	37
221	Neu5Acα2-3Galβ1-3(Neu5Acα2-6)GalNAcα–Sp8	120	40	20	33
124	Galβ1-3(Neu5Acα2-6)GlcNAcβ1-4Galβ1-4Glcβ-Sp10	118	53	27	45
316	Neu5Acα2-3Galβ1-3(Neu5Acα2-6)GalNAc-Sp14	118	52	26	44
298	Galβ1-4GlcNAcα1-6Galβ1-4GlcNAcβ-Sp0	117	74	37	63
200	Manβ1-4GlcNAcβ-Sp0	117	65	32	56
273	Fucα1-2-Galβ1-4[6OSO3]Glc-Sp0	116	48	24	42
240	Neu5Acα2-3Galβ1-4Glcβ–Sp8	116	37	19	32
21	β-GlcNAc–Sp0	114	66	33	58
43	[6OSO3]Galβ1-4Glcβ–Sp8	112	38	19	34
206	Neu5Acα2-8Neu5Acα2-3(GalNAcβ1-4)Galβ1-4Glcβ–Sp0	111	96	48	86
181	Glcβ1-6Glcβ-Sp8	111	45	22	40
131	Galβ1-3GlcNAcβ1-3Galβ1-4GlcNAcβ-Sp0	110	55	28	50
214	Neu5Acα2-3GalNAcα–Sp8	110	15	7	13

294	Galβ1-3Galβ1-4GlcNAcβ-Sp8	110	95	47	86
291	Galα1-3GalNAcα-Sp16	110	85	43	78
223	NeuAcα2-3Galβ1-3GalNAcβ1-3Galα1-4Galβ1-4Glcβ-Sp0	109	24	12	22
317	Neu5Acα2-3Galβ1-3GalNAc–Sp14	109	60	30	55
242	Neu5Acα2-6GalNAcα–Sp8	109	63	31	58
179	Glcα1-6Glcα1-6Glcβ-Sp8	109	52	26	47
233	Neu5Acα2-3Galβ1-4(Fucα1-3)GlcNAcβ1-3Galβ1-4GlcNAcβ-Sp8	105	49	24	46
102	Galα1-3GalNAcβ–Sp8	105	75	38	71
180	Glcβ1-4Glcβ-Sp8	104	55	28	53
152	Galβ1-4GlcNAcβ–Sp0	103	54	27	52
248	Neu5Acα2-6Galβ1-4GlcNAcβ1-3Galβ1-4GlcNAcβ-Sp0	103	28	14	27
33	[3OSO3]Galβ1-3GlcNAcβ–Sp8	103	29	15	28
29	[3OSO3]Galβ1-4(6OSO3)Glcβ–Sp0	101	17	9	17
147	Galβ1-4GlcNAcβ1-3Galβ1-4GlcNAcβ–Sp0	99	52	26	52
227	Neu5Acα2-3Galβ1-4[6OSO3]GlcNAcβ-Sp8	98	59	29	60
259	Neu5Gca2-3Galβ1-4(Fucα1-3)GlcNAcβ-Sp0	97	40	20	41
16	β-Neu5Ac-Sp8	96	45	22	46
244	Neu5Acα2-6Galβ1-4[6OSO3]GlcNAcβ-Sp8	96	30	15	32
212	NeuAcα2-3(NeuAcα2-3Galβ1-3GalNAcβ1-4)Galβ1-4Glcβ-Sp0	96	95	47	99
55	Fucα1-2Galβ1-3GalNAcβ1-3Galα-Sp9	95	59	30	62
208	Neu5Acα2-3(6-O-Su)Galβ1-4(Fucα1-3)GlcNAcβ–Sp8	95	27	14	29
285	Neu5Acα2-3Galβ1-4GlcNAcβ1-3Galβ1-3GlcNAcβ-Sp0	94	19	10	20
278	Galβ1-3GalNAc-Sp14	94	60	30	64
30	[3OSO3]Galβ1-4(6OSO3)Glcβ–Sp8	93	81	40	87
225	Neu5Acα2-3Galβ1-3GlcNAcβ–Sp0	93	55	28	59
303	GlcAβ1-3GlcNAcβ-Sp8	92	61	31	67
215	Neu5Acα2-3GalNAcβ1-4GlcNAcβ-Sp0	92	54	27	59
127	Galβ1-3GalNAcβ1-3Galα1-4Galβ1-4Glcβ-Sp0	91	49	25	54
4	Neu5Gcβ2-6Galβ1-4GlcNAc-Sp8	91	35	18	39
18	β-D-Glc–Sp8	90	44	22	49
153	Galβ1-4GlcNAcβ–Sp8	90	47	23	52
216	Neu5Acα2-3Galβ1-3(6OSO3)GlcNAc-Sp8	89	49	25	55

73	Fucα1-2Galβ1-4Glcβ–Sp0	88	60	30	68
254	Neu5Acβ2-6GalNAcα–Sp8	87	60	30	69
3	Neu5Acα2-8Neu5Acα2-8Neu5Acβ-Sp8	87	49	24	56
283	Galβ1-4GlcNAcβ1-3Galβ1-3GlcNAcβ-Sp0	86	6	3	7
211	Neu5Acα2-3(GalNAcβ1-4)Galβ1-4Glcβ–Sp0	84	39	20	47
239	Neu5Acα2-3Galβ1-4Glcβ–Sp0	81	81	40	100
116	Galβ1-3(Fucα1-4)GlcNAcβ1-3Galβ1-4GlcNAcβ-Sp0	81	25	13	32
119	Galβ1-3(Fucα1-4)GlcNAcβ–Sp8	81	63	31	78
41	6-H2PO3Manα–Sp8	80	64	32	80
282	Galβ1-4(Fucα1-3)GlcNAcβ1-3Galβ1-3(Fucα1-4)GlcNAcβ-Sp0	80	39	19	49
25	GlcNAcβ1-3(GlcNAcβ1-4)(GlcNAcβ1-6)GlcNAc-Sp8	80	18	9	22
315	Neu5Acα2-3Galβ1-3(Neu5Acα2-3Galβ1-4GlcNAcβ1-6)GalNAc–Sp14	80	21	11	26
279	Galβ1-3GlcNAcβ1-3Galβ1-3GlcNAcβ-Sp0	79	41	20	52
38	[3OSO3]Galβ–Sp8	79	18	9	22
78	Fucβ1-3GlcNAcβ-Sp8	78	34	17	43
306	GlcNAcβ1-3Man-Sp10	77	27	13	35
42	[6OSO3]Galβ1-4Glcβ–Sp0	77	92	46	120
144	Galβ1-4GlcNAcβ1-3GalNAcα–Sp8	76	19	9	25
27	[3OSO3][6OSO3]Galβ1-4GlcNAcβ-Sp0	76	41	20	54
117	Galβ1-3(Fucα1-4)GlcNAc–Sp0	75	8	4	11
220	Neu5Acα2-3Galβ1-3[6OSO3]GalNAcα-Sp8	73	38	19	53
296	Galβ1-4GlcNAcβ1-3(Galβ1-4GlcNAcβ1-6)Galβ1-4GlcNAc-Sp0	72	23	12	32
207	Neu5Acα2-8Neu5Acα2-8Neu5Acα-Sp8	72	40	20	55
60	Fucα1-2Galβ1-3GalNAcβ1-4(Neu5Acα2-3)Galβ1-4Glcβ-Sp9	71	25	13	35
245	Neu5Acα2-6Galβ1-4GlcNAcβ–Sp0	71	35	17	49
149	Galβ1-4GlcNAcβ1-3Galβ1-4Glcβ–Sp8	71	82	41	116
8	α-D-Glc–Sp8	70	70	35	100
277	Galβ1-3-(Neu5Aa2-3Galβ1-4GlcNacβ1-6)GalNAc-Sp14	67	44	22	65
9	α-D-Man–Sp8	67	27	13	40
125	Galβ1-3GalNAcα-Sp8	66	99	50	150
53	Neu5Acα2-6Galβ1-4GlcNAcβ1-2Manα1-3(Neu5Acα2-6Galβ1-4GlcNAcβ1-2Manα1-6)Manβ1-4GlcNAcβ1-4GlcNAcβ-Sp13	66	32	16	49

210	Neu5Acα2-3(GalNAcβ1-4)Galβ1-4GlcNAcβ-Sp8	64	25	12	39
146	Galβ1-4GlcNAcβ1-3Galβ1-4GlcNAcβ1-3Galβ1-4GlcNAcβ–Sp0	63	26	13	42
46	NeuAcα2-3[6OSO3]Galβ1-4GlcNAcβ–Sp8	63	57	29	91
13	α-L-Rhα–Sp8	63	29	14	46
275	Galβ1-3-(Galβ1-4GlcNacβ1-6)GalNAc-Sp14	62	35	18	57
284	Neu5Acα2-3Galβ1-3GlcNAcβ1-3Galβ1-3GlcNAcβ-Sp0	60	26	13	43
289	6-H2PO3Glcβ-Sp10	57	46	23	81
213	Neu5Acα2-3(Neu5Acα2-6)GalNAcα–Sp8	56	26	13	46
204	Neu5Acα2-8Neu5Acα2-8Neu5Acα2-3(GalNAcβ1-4)Galβ1-4Glcβ-Sp0	55	4	2	7
15	α-Neu5Ac–Sp11	51	41	20	79
253	Neu5Acα2-8Neu5Acα2-3Galβ1-4Glcβ–Sp0	48	36	18	74
286	[3OSO3]Galβ1-4[6OSO3]GlcNAcβ-Sp0	46	29	14	63
262	Neu5Gcα2-6GalNAcα–Sp0	44	18	9	41
252	Neu5Acα2-8Neu5Acα-Sp8	41	8	4	19
205	Neu5Acα2-8Neu5Acα2-8Neu5Acα2-3Galβ1-4Glcβ–Sp0	40	8	4	19
238	Neu5Acα2-3Galβ1-4GlcNAcβ1-3Galβ1-4GlcNAcβ-Sp0	33	59	29	176
250	Neu5Acα2-6Galβ1-4Glcβ–Sp8	30	26	13	88
77	Fucα1-4GlcNAcβ–Sp8	24	27	14	112

Supplementary Table S2: List of best hits (E<0.01) of a BLASTp search using the deduced sequence of LECEEA as a query.

```
Proteins with a single domain equivalent to EEA                   Score     E-value

ref|NP_001060668.1|Os07g0684000 [Oryza sativa] (=osr40g3)              129    5e-29
emb|CAO23507.1|    unnamed protein product [Vitis vinifera]            129    7e-29
gb|AAY44603.1|     stress responsive protein [Triticum aestivum]       126    3e-28
gb|ABK95474.1|     unknown [Populus trichocarpa]                       120    3e-26
ref|NP_565899.1|   hydroxyproline-rich glycoprotein family             120    4e-26
                   Arabidopsis thaliana ((At2g39050)
ref|NP_001041764.1|Os01g0104400 [Oryza sativa (japonica cult...        107    2e-22
gb|ABK27004.1|     unknown [Picea sitchensis]                          100    3e-20
gb|ABK22768.1|     unknown [Picea sitchensis]                         99.0    8e-20
gb|ABK23910.1|     unknown [Picea sitchensis]                         97.1    3e-19
gb|EDQ82581.1|     predicted protein [Physcomitrella patens subsp. p  94.7    2e-18
gb|EDQ69990.1|     predicted protein [Physcomitrella patens subsp. p  94.4    2e-18
gb|EAY89839.1|     hypothetical protein OsI_011072 [Oryza sativa ...  92.0    9e-18
gb|ABK23307.1|     unknown [Picea sitchensis]                         87.4    3e-16
gb|ABK21966.1|     unknown [Picea sitchensis]                         86.7    4e-16
gb|ABK22123.1|     unknown [Picea sitchensis] >gb|ABK27146.1| unk...  85.9    7e-16
gb|ABK24175.1|     unknown [Picea sitchensis] >gb|ABK27037.1| unk...  84.7    1e-15
gb|EDQ73918.1|     predicted protein [Physcomitrella patens subsp. p  60.5    3e-08
emb|CAH59433.1|    lectin-like protein 1 [Plantago major]             58.9    9e-08
emb|CAH59435.1|    lectin-like protein 2 [Plantago major]             56.2    5e-07

Proteins with two in tandem arrayed domains equivalent to EEA
ref|NP_001060666.1|Os07g0683600 [Oryza sativa (japonica cult...        119    8e-26
ref|NP_001060667.1|Os07g0683900 [Oryza sativa (japonica cult...        116    4e-25
ref|NP_001049995.1|Os03g0327600 [Oryza sativa (japonica cult...        114    2e-24
gb|EDQ82427.1|     predicted protein [Physcomitrella patens subsp. p   102    7e-21
gb|ABK25355.1|     unknown [Picea sitchensis]                          102    9e-21
gb|ABK24374.1|     unknown [Picea sitchensis]                         96.3    5e-19
```

Supplementary Table S3: List of top 50 hits of a tBLASTn search using the deduced sequence of LECEEA as a query (EST database).

Proteins with a single domain equivalent to EEA		Score	E-value
gb|DV449251.1|	CV01027A2A02.f1 CV01-normalized library Maniho...	137	3e-31
gb|CA800954.1|	sau22c12.y1 Gm-c1062 Glycine max cDNA clone SO...	134	2e-30
gb|EV240086.1|	VV_PEd0010g08.b1 Vitis vinifera cv. perlette L...	134	2e-30
gb|BM890680.1|	sam06f06.y1 Gm-c1063 Glycine max cDNA clone SO...	134	2e-30
gb|EC987124.1|	WIN1129.C21_M02 Muscat Hamburg pre-veraison be...	134	3e-30
gb|CN141603.1|	OX1_52_E09.g1_A002 Oxidatively-stressed leaves...	133	4e-30
gb|EV240087.1|	VV_PEd0010g08.g1 Vitis vinifera cv. perlette L...	132	7e-30
gb|DN141919.1|	5036_F02_L03 Switchgrass crown cDNA library Pa...	132	9e-30
gb|CX635247.1|	UCRPT02_10F01_b Poncirus trifoliata Roots with...	132	1e-29
gb|CD573822.1|	UCRPT01_02_D04_T7 Poncirus trifoliata CTV-chal...	132	1e-29
gb|CV705291.1|	UCRPT01_0006K15_f Poncirus trifoliata CTV-chal...	132	1e-29
gb|DW224105.1|	GH_HYPS_01-01-04R_H12_InvR_13Apr04_082_F Stem ...	132	1e-29
gb|CX635248.1|	UCRPT02_10F01_g Poncirus trifoliata Roots with...	132	1e-29
gb|CX047385.1|	UCRCS09_13G12_b Ruby Orange Developing Seed cD...	132	1e-29
gb|CV708290.1|	UCRPT01_0011B11_f Poncirus trifoliata CTV-chal...	132	1e-29
gb|CN187922.1|	UCRCS05_0005D18_f Washington Navel Orange Stor...	131	1e-29
gb|CN186672.1|	UCRCS05_0003E09_f Washington Navel Orange Stor...	131	2e-29
gb|CX667274.1|	UCRCP01_030_C07_T3 Swingle citrumelo nematode-...	131	2e-29
gb|CA162130.1|	SCQSRZ3037H04.b RZ3 Saccharum officinarum cDNA...	131	2e-29
gb|CA109368.1|	SCSGHR1070B01.b HR1 Saccharum officinarum cDNA...	131	2e-29
gb|EE021146.2|	ZM_BFc0074M13.r ZM_BFc Zea mays cDNA clone ZM_...	131	2e-29
dbj|CJ767152.1|	CJ767152 Ipomoea nil shoot 8-days old seedlin...	131	2e-29
gb|CD432710.1|	ETH1_25_E11.g1_A002 Ethylene-treated seedlings...	131	2e-29
gb|CX050821.1|	UCRCS09_34G05_b Ruby Orange Developing Seed cD...	131	2e-29
gb|CN151340.1|	WOUND1_74_H03.g1_A002 Wounded leaves Sorghum b...	131	2e-29
gb|CN128191.1|	RHOH1_27_D12.g1_A002 Acid- and alkaline-treate...	131	2e-29
gb|CD431221.1|	ETH1_7_C10.g1_A002 Ethylene-treated seedlings ...	131	2e-29
gb|CN144638.1|	WOUND1_23_C09.g1_A002 Wounded leaves Sorghum b...	131	2e-29
gb|CN147712.1|	WOUND1_51_D08.g1_A002 Wounded leaves Sorghum b...	130	2e-29
gb|CX620548.1|	GABR1_52_C01.g1_A002 GA- or brassinolide-treat...	130	3e-29
gb|CB290392.1|	UCRCS01_01bb10_b1 Washington Navel orange cold...	130	3e-29
gb|DV862750.1|	CRP2482 Creeping bentgrass EST Agrostis stolon...	130	4e-29
gb|EE180130.2|	ZM_BFc0162E12.r ZM_BFc Zea mays cDNA clone ZM_...	130	4e-29
gb|EE040416.2|	ZM_BFc0105N12.f ZM_BFc Zea mays cDNA clone ZM_...	130	4e-29
gb|CX109197.1|	RECm0573 A normalized whole-life-cycle cDNA li...	130	4e-29
gb|DV861049.1|	CRP781 Creeping bentgrass EST Agrostis stoloni...	130	4e-29
gb|CD431884.1|	ETH1_11_D11.g1_A002 Ethylene-treated seedlings...	130	4e-29
gb|EE181047.2|	ZM_BFc0163K11.f ZM_BFc Zea mays cDNA clone ZM_...	130	5e-29
gb|EE190900.2|	ZM_BFc0190H04.f ZM_BFc Zea mays cDNA clone ZM_...	130	5e-29
gb|EC903704.2|	ZM_BFc0052M17.r ZM_BFc Zea mays cDNA clone ZM_...	130	5e-29
gb|EE190286.2|	ZM_BFc0188A03.r ZM_BFc Zea mays cDNA clone ZM_...	129	5e-29
gb|EE040417.2|	ZM_BFc0105N12.r ZM_BFc Zea mays cDNA clone ZM_...	129	5e-29
gb|EG664831.1|	RCLGP49TP Castor bean cDNA library from leaves...	129	5e-29
gb|EE190924.2|	ZM_BFc0190H20.f ZM_BFc Zea mays cDNA clone ZM_...	129	6e-29
gb|EE294911.2|	ZM_BFc0189N20.f ZM_BFc Zea mays cDNA clone ZM_...	129	6e-29
gb|EE294025.2|	ZM_BFc0188A03.f ZM_BFc Zea mays cDNA clone ZM_...	129	6e-29
gb|EE180129.2|	ZM_BFc0162E12.f ZM_BFc Zea mays cDNA clone ZM_...	129	6e-29
gb|EE173587.2|	ZM_BFc0151M14.f ZM_BFc Zea mays cDNA clone ZM_...	129	6e-29
gb|EE169896.2|	ZM_BFc0145L03.f ZM_BFc Zea mays cDNA clone ZM_...	129	6e-29
gb|EE160134.2|	ZM_BFc0129K03.f ZM_BFc Zea mays cDNA clone ZM_...	129	6e-29

SUPPLEMENTARY FIGURES

Supplementary Figure S1: Genomic sequence of EEA. Intron sequences are shown in italic, the start- and stopcodon are underlined. The amino acid sequence corresponding to the N-terminal sequence of EEA is shown in bold.

ATGGCTTCAACAATCATCGCAACAGGACCCACTTATAGGGTGTACTGCAGG
M A S T I I **A T G P T Y R V Y C R**

GCCGCCCCCAACTACAATATGACCGTCGGTAAAGGGGTGGCCTTTCTTGCC
A A P N Y N M T V G K G V A F L A

CCTATTGATGAAACAAATGAGCTTCAG*GTTTATTCATCAAAGACGATCTAT*
P I D E T N E L Q

TAATTTCCTTTTATCTTTTTATTTATGTCAAAGTGCATGTTTTCATGATCT

TCATCCGTTCTTAAGGATTGTATGCGTATAATTTACAATGAGTTAGCATAT

*TCTAGTGTGTATATATATATATATTAATTTTTTGTTGTGGCAG*TATTGGTACA
Y W Y K

AAGATGACACGTACAGCTATATCAAGGACGAAGCGGGCCTTCCTGCATTTT
D D T Y S Y I K D E A G L P A F S

CTCTAGTTAATAAAGCAACTGGTCTAACCCTAAAACATTCAAATCATCACC
L V N K A T G L T L K H S N H H P

CTGTTCCT*GTAAGAATTCTACGACCTTAACACTGCAGGCTTTCTTAACTTG*
V P

TCATTTATACAATTACCGATAGCATTGTAACTTTTTTTTTTGTGGAAATTT

*ATCATACATGTAG*GTGAAATTGGTGACTTACAATCCAAATGTTGTTGATGA
V K L V T Y N P N V V D E

GTCTGTCTTATGGTCACAAGCAGACGATCGCGGTGACGGTTACTCGGCCAT
S V L W S Q A D D R G D G Y S A I

```
AAGGAGTCTTACAAATCCTGCATCACATTTGGAAGCAGCTCCTTTGAATGA
  R  S  L  T  N  P  A  S  H  L  E  A  A  P  L  N  D

 TTGGTCCTACAATGGTGCTATAATTATGGGCGGAGTCTGGATTGATGCATA
   W  S  Y  N  G  A  I  I  M  G  G  V  W  I  D  A  Y

 TAACCAGCAGTGGAAAATTGAGCCACACAGTAAGGAAATCATGACGCTAGT
   N  Q  Q  W  K  I  E  P  H

 CTCATTCTTACTTTCTTTTTGGAAATATATATTTCTAATCATCTTCTCTCA

 TTTCCAATCATGAATGCAGCAGGTTGA
                     T G  *
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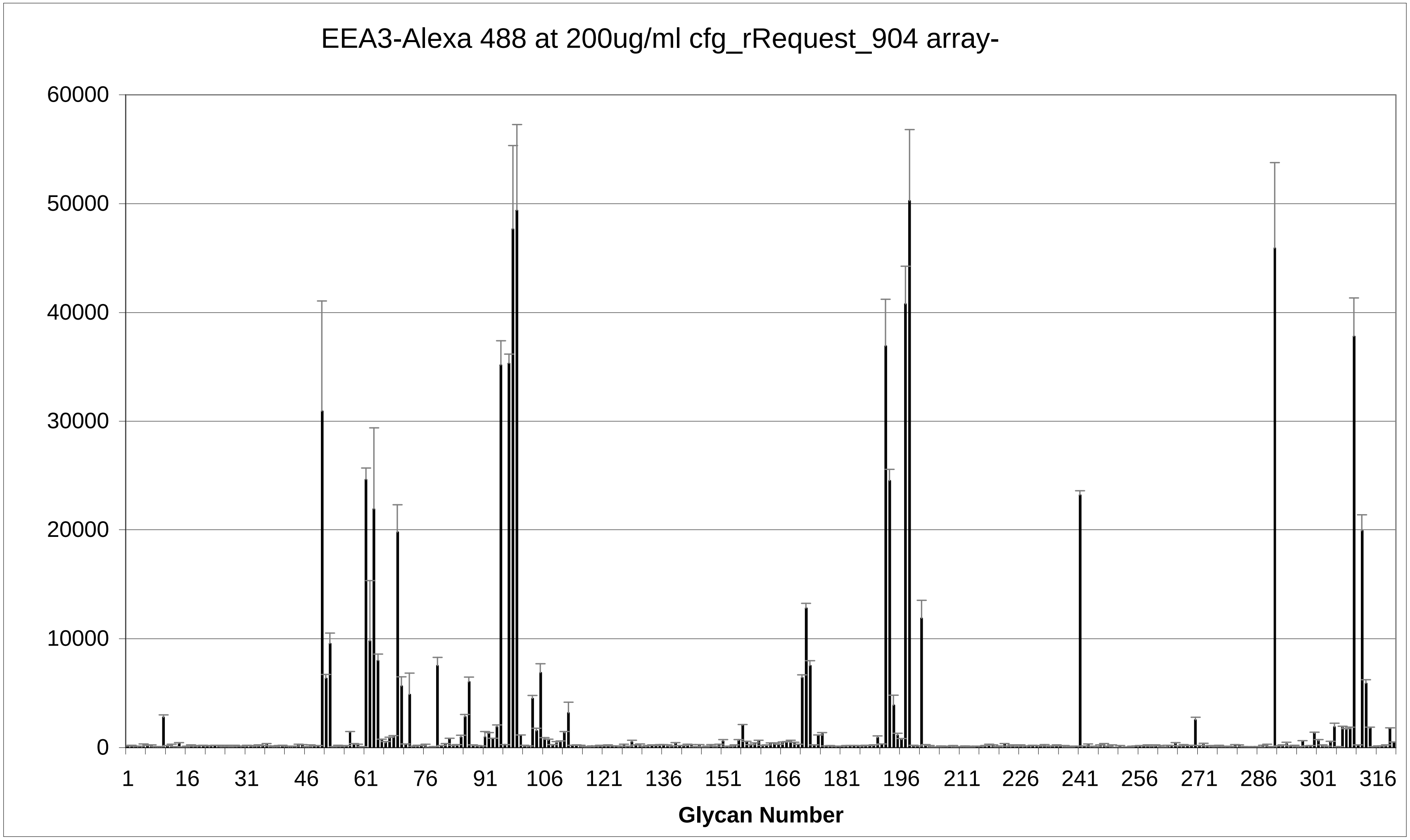
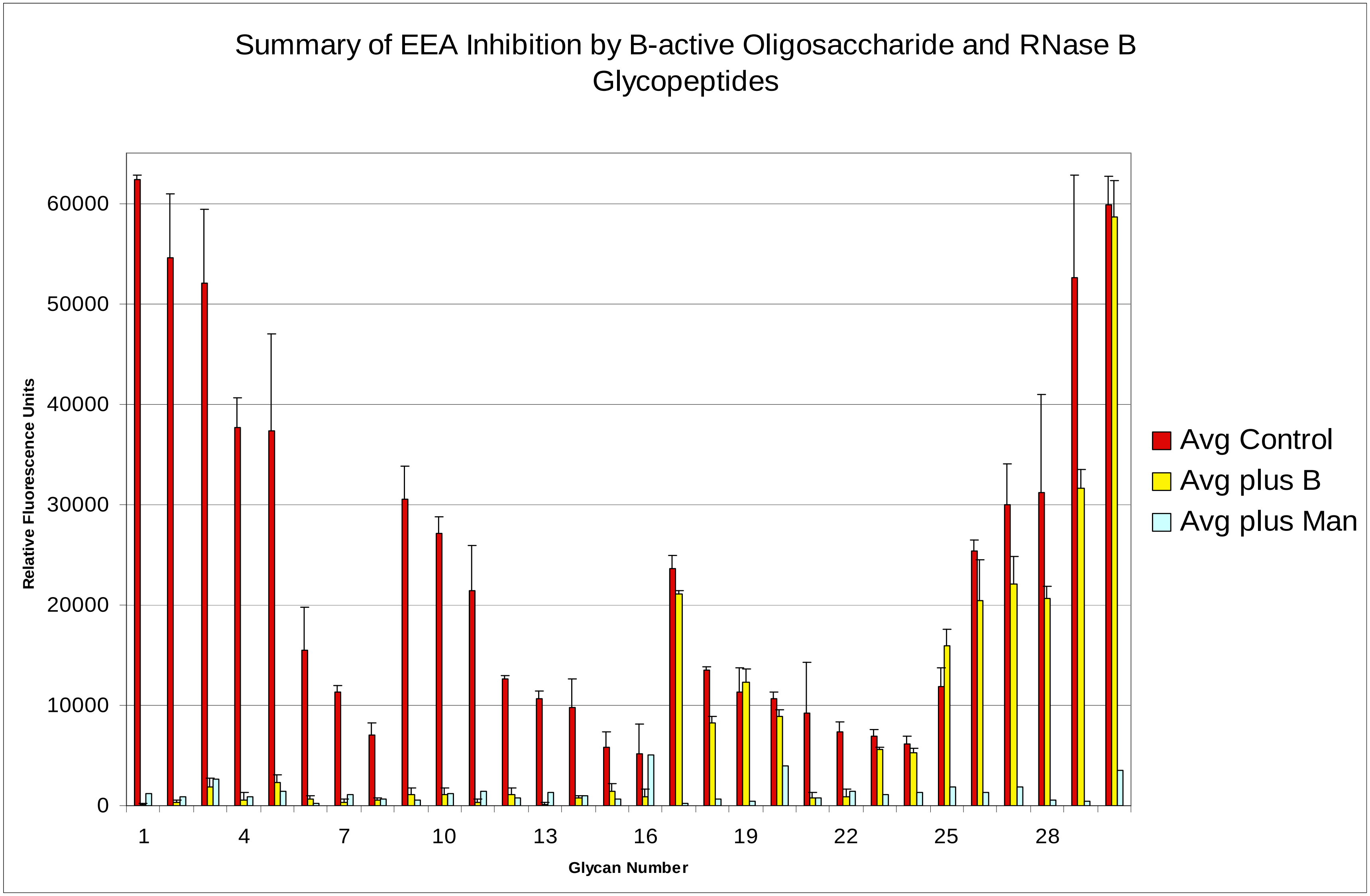


Supplementary Figure S2: Determination of the specificity of EEA by screening on the printed array v3 of the Consortium for Functional Glycomics. Error bars represent mean ± standard error of the mean. The entire glycan array version is available at https://www.functionalglycomics.org/static/consortium/resources/resourcecoreh8.shtml



Supplementary Figure S3: Summary of EEA inhibition by B-active oligosaccharides and RNase B glycopeptides. Glycan numbers refer to numbers of selected glycans in Table 2. Avg Control = average relative fluorescence units for control (EEA without addition of inhibitor), Avg plus B = average relative fluorescence units for EEA in the presence of blood group B tetrasaccharide, Avg plus Man = average relative fluorescence units for EEA in the presence of a mixture of glycopeptides derived from RNase B.

Supplementary Figure S4: Alignment of the amino acid sequences of osr40g3 (CAA70175.1; Os07g0684000) and the individual ricin-B domains of *Ricinus communis* agglutinin (AAA33869.1)

A. Alignment of osr40g3 (residues 45-204) and the N-terminal ricin-B domain of AAA33869.1 (covering residues 309-440)

```
Osr40g3         CGRTLPPQPTVKVYCRANPNYAMTARNGAVVLAPANPKDEYQHWIKDMRWSTSIKDEEGY
RicinBn         ------PEPIVRIVGRNGLCVDVTG-------EEFFDGNPIQLWP---CKSNTDWNQLWT
                      *:* *::  * .    :*.             :  * *      *.:  ::

Osr40g3         PAFALVNKATGQAIKHSLGQSHPVRLVPYNPEVMDESVLWTESRDVGNGFRCIRMVNNIY
RicinBn         LRKDSTIRSNGKCLTISK-SSPRQQVVIYNCSTATVGATRWQIWDN----RTIINPRSGL
                     . ::.*:.:. *  .*   ::* ** ..   ..   :  *     * *   ..

Osr40g3         LNFDAFHGDKYHGGVRDGTDIVLWKWCEGDNQRWKIQPYY
RicinBn         VLAATSGNSGTKLTVQTNIYAVSQGWLPTNNTQ-------
                :   :  ..  :  *: .   *   *   :* :
```

B. Alignment of osr40g3 (residues 45-204) and the C-terminal ricin-B domain of AAA33869.1 (covering residues 441-564)

```
Osr40g3         CGRTLPPQPTVKVYCRANPNYAMTARNGAVVLAPANPKDEYQHWIKDMRWSTSIKDEEGY
RicinBc         ------PFVTTIVGLYG---MCLQANSGKVWLEDCTSEKAEQQWALYADGSIRP------
                      *  *. *   .    .: *..* * *  ...:.  *:*      *

Osr40g3         PAFALVNKATGQAIKHSLGQSHPVRLVPYNPEVMDESVLWTESRDVGNGFRCIRMVNNIY
RicinBc         -------------------QQNRDNCLTTDANIKGTVVKILSCGPASSGQRWMFKNDGTI
                                   *.:  . :. :.:: .  *   ..  ...* * :   :.

Osr40g3         LNFDAFHGDKYHGGVRDGTDIVLWKWCEGDNQRWKIQPYY
RicinBc         LNLYNGLVLDVRRSDPSLKQIIVHPFHGNLNQIWLPLF--
                **:      . : .  . .:*::  :  . ** *
```

Supplementary Figure S5: Sequence alignment of EEA domains retrieved from NCBI database

Sequences retrieved by Blastp search in NCBI database

(redundant sequences have been omitted)

Arabidopsis thaliana
>Arath: ref|NP_565899.1| hydroxyproline-rich glycoprotein family protein (At2g39050)

Plantago major
>Plama1: gi|53748491|emb|CAH59433.1| lectin-like protein 1
>Plama2: gi|53748493|emb|CAH59435.1| lectin-like protein 2

Populus trichocarpa
>Poptr: gb|ABK95474.1| unknown

Vitis vinifera
>Vitvi: emb|CAO23507.1| unnamed protein product

Triticum aestivum
>Triae: gb|AAY44603.1| stress responsive protein

Oryza sativa
Orysa1: ref|NP_001060668.1| Os07g0684000
Orysa2: ref|NP_001041764.1| Os01g0104400
Orysa3: ref|NP_001049995.1| Os03g0327600
Orysa4: ref|NP_001060666.1| Os07g0683600 annotated seq incorrect*
Orysa5: ref|NP_001060667.1| Os07g0683900

The next 2 sequences are not included in the analysis (because they apparently corresponds to pseudogenes)
Orysa6: ref|NP_001049986.1| Os03g0325700 annotated seq incorrect
Orysa7: ref|NP_001049987.1| Os03g0325900 annotated seq incorrect

Physcomitrella patens
>Physco1: ref|XP_001752923.1| predicted protein
>EDQ82427 annotated seq is incomplete*

>Physco2: ref|XP_001752710.1| predicted protein
>EDQ82581 annotated seq is incomplete*

>Physco3: ref|XP_001765262.1| predicted protein
>EDQ69990 annotated seq is incomplete*

>Physco4: ref|XP_001761196.1| predicted protein
>EDQ73918 annotated seq comprises extra N-term

Picea sitchensis
>Picsi1: gb|ABK27004.1| unknown [Picea sitchensis]
>Picsi2: gb|ABK22768.1| unknown [Picea sitchensis]
>Picsi3: gb|ABK22123.1| unknown [Picea sitchensis]
>Picsi4: gb|ABK24175.1| unknown [Picea sitchensis]
>Picsi5: gb|ABK23307.1| unknown [Picea sitchensis]
>Picsi6: gb|ABK21966.1| unknown [Picea sitchensis]
>Picsi7:gb|ABK23910.1| unknown [Picea sitchensis]
>Picsi8: gb|ABK25355.1| unknown [Picea sitchensis]
>Picsi9: gb|ABK24374.1| unknown [Picea sitchensis]

*Incorrect and incomplete annotated sequences have been corrected and completed.

Sequences of EEA domains used to construct dendrogram

>EEA
PTYRVYCRAAPNYNMIVGKGVAFLAPIDETNELQYWYKDDTYSYIKD
EAGLPAFSLVNKATGLTLKHSNHHPVPVKLVTYNPNVVDESVLWSQA
DDRGDGYSAIRSLTNPASHLEAAPLNDWSYNGAIIMGGVWIDAYNQQ
WKIEPHTG

>Arath
ATVKVYSKAEPNYNLTIRDGKVILAPADPSDEAQHWYKDEKYSTKVK
DADGHPCFALVNKATGEAMKHSVGATHPVHLIRYVPDKLDESVLWT
ESKDFGDGYRTIRMVNNTRLNVDAYHGDSKSGGVRDGTTIVLWDWN
KGDNQLWKIFPF

>Plama1
ESYRLYCKRQGQAGGNYCVTARQGKLYLTHPNGADCNQIWYKVGND
KVGVIMLVHKATGMVVKHSTTGVQLQLVKKPSGCADKSVLWAESAD
VGSGYRFLKTQTDTNYVMDAWTGIINEGTIISIYPNCINDSNRNAENQ
LWKLAP

>Plama2
ESYRLYCKRQGQAGGNYCVTARQGKLYLTHPNGADCNQIWYKVGND
KVGVIMLVHKATGMVVKHSTTGVQLQLVKKPSGCADKSVLWAESAD
VGSGYRFLKTQDDTNYVMDAWTGIINEGTIISIYPNCINDSNRNAENQ
LWKLAP

>Poptr
PSFKVYSKAQPEFHLTIRGGKVILAPSNPSDEFQNWYKDEKYSTRVKD
SEGCPAFALVNKATGQAMKHSIGEAHPVQLIPYNPDVLDESILWTESK
DLGDGFRAVRMVNNTHLNVDAFHGDKKSGGVHDGTSIVLWKWNKG
DNQRWKIIPTRY

>Vitvi

PTVRVFCKAKPNHSLTILDGKVYLAPSDKTDMLQHWIKDEKYSTSVKDEEGFPSFALVNKATGQAMKHSIGASHPVQLIPYNPDVLDESVLWTESKDLGDNFRSIRMINNIHLNVDALHGDRSHGSVHDCTTIVLNKWKKGDNQLWKISLY

>Triae
PTVKIYCRANPNYAMSVRNGKVVLAPANPKDDYQHWIKDMRWSTSIKDEEGYPAFAMVNKATGQAIKHSLGQSHPVRLVPYNPDYLDESVLWTESRDVGNGFRCVRMVNNIYLNFDALNGDKYHGGVRDGTEVVLWKWCEGDNQRWKLQPYY

>**Orysa1**
PTVKVYCRANPNYAMTARNGAVVLAPANPKDEYQHWIKDMRWSTSIKDEEGYPAFALVNKATGQAIKHSLGQSHPVRLVPYNPEVMDESVLWTESRDVGNGFRCIRMVNNIYLNFDAFHGDKYHGGVRDGTDIVLWKWCEGDNQRWKIQPYY

>**Orysa2**
VTHRIYCKAGEDNYSLAVRDGKVCLVRSDRDDHTQHWVKDMKYSTRVKDEEGYPAMALVNKATGDALKHSIGQSHPVRLVRYNPEYMDESVLWTESRDVGSGFRCIRMVNNIYLNFDALHGDKDHGGVRDGTTLVLWEWCEGDNQRWKIVPW

>**Orysa3N**
PTFKIFCRADEGYCVAVREGNVVLAPTNPRDEHQHWYKDMRFSAKIKDEEGNPAFALVNKATGLAIKHSLGQGHPVKLAPFNPEYPDESVLWTESGDVGKSFRCIRMLNNIRLNFDAFHGDKDHGGVHDGTTIVLWEWAKGDNQCWKILPW

>**Orysa3C**
PTVRIFCKADEGFSVTVRGGSVCLAPTNPRDEYQHWIKDMRHSNSIKDEEGYPAFALVNRVTGEAIKHSQGEGHPVKLVPYNPGYQDESVLWTESRDVGHGFRCIRMVNNIYLNFDALHGDKDHGGVRDGTTVALWKWCEGDNQRWKIVPW

>Orysa4N
PTFKIFCRADEGYCLTVRHDAVVLAPTNPRDDCQHWYKDMRHSTRVKDEEGHPAFALVNRATGLAVKHSLGQSHPVKLVPYNPEYQDESVLWTESKDVGHGFRCIRMVNNIYLNLDAFHGDKSHGGVHDGTTVVLWEWCKGDNQCWKILPW

>Orysa4C
EPTVRILCRADEAYSLTVRNGAVCLAPTNPRDDFQHWVKDMRHSTSIKDEEGYPAFALVNKATGEAIKHSLGQSHPVRLVPYNPEYLDESVLWTESKDVGHGFRCVRMVNNIYLNFDAFHGDKDHGGVHDGTTVVLWEWCKGDNQRWKILPW

>Orysa5N
QIFKIFCRANENYCLTVRDSAVVLAPVNPKDEHQHWFKDMRFSTKVKDGEGMPAFALVNKATGLAVKHSLGQSHPVKLVPFNPEYEDASVLWTESKDVGKGFRCIRMVNNTRLNLDAFHGDKDHGGVRDGTTVVLWEWCKGDNQSWKILPW

>**Orysa5C**

VHTVRVFSAAGEDYCLTVRNGTACLAPKNPRDDYQHWIKDMRHSNK
IRDEEGYPAFALVNKVTGEAIKHSTGQGHPVKLVPYNPEYQDESVLW
TESKDVGKGFRCIRMVNNIYLNFDAFHGDKDHGGIHDGTEIVLWKWC
EGDNQRWKILPW

>Physco1N
EAVRLHCRADPNFCLAAIPGQGPVMVPNNESDAYQVWYKDESMSNR
VKDESGAHAFSLINKATGECLRHPPEDLQQCLLVVYEPNAQDESVLW
TMSEDMGQGYRCIRVVTSITRNLDVLRGDKKSGGMKNGSSVITFAWK
NQDNQVWKMTPV

>Physco1C
HAVRLHCRADPNFSIAVIPGQGTIMVPTNASDAHQIWYRDESMSNRV
TDESGAHAFALINKVTGECLRHPPEDLKQCLLADYEPNGLDESVLWT
MSEDMGQGYRCIRVVTSITRNLDVLRGDKKSGGVKTGSPLITFAWKN
QDNQVWKMTPA

>Physco2
HPVRIHCKADPSYNLAVVPGQGPVMVPTDISDDYQVWYKDETISTRV
TDETGASAFSLINKATGQALRHAPEDLKQCLLTQYEPNGLDDTIWWT
MSEDMGQGYHCIRLATDITRNMDVLRGDKKSGGVKEGSPVITFAWKK
QDNQIWKMTPA

>Physco3
LPVRLHCKADPNFNLAAVPGQGPVMVPFSPNDDFQVWYKDVTMSTR
VKDETGSSAFSLINKATGQALRHAPEDLAQCLLADYDSNALDQTVLW
TMSEDMGQGYCCIRLASQITRNLDVLRGDKKSGGVKEGSPVITFAWK
KQDNQIWKMITA

>Physco4
ETVRIHSKANANYNVAVRGTVGHGTCIVMADDTDSSQLWLKDDKMA
WTFDKKGGFSIVHKDTMKAIRVAPEEGKQVLLADYDPRKLDESLIWY
QSSNRGRNYHTIYNGTSETVLHALRCTQCELMQPCTEGNAHMKENTL
VVVMKDRTKKDDPATVAMNQLWKLTPS

>Picsi1
GQVVRVFTKANPDFSLAIRNGSAVLVHANAHDKHQQWVNDETYSTK
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TMSGDMGQGYRTIRLVNNIHLNLDAFHGDKKSGGIKDGNPVVLWSW
KKGDNQLWKIVPY

>Picsi2
GQVVRVLTKANPDFSLAIRNGSAVLVHANANDKHQQWVMDETYSTK
VKDEASCPSFSLVNKATGQVLKHGLGETQPVLLTEYQLNTFDESILWT
MSGDMGQGYRTIRLVNNIHLNLDAFHGDKKSGGIKDGNPVVLWSWK
KGDNQLWKIVPY

>Picsi3
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VRDQVGHPAFALVNKATGQALRHATAECQEVLLTQYEGASTYDENV
LWSESEDMGYGYRTVRMANNIGLNLDAFQGDRRNGGIRDGTRAVLW
KWNKQDNQLWKLSPCY

>Picsi4

GQIVRVCSKANPDYALAIRDGRAVMVFYNPNDPTMQWVKDESWSNQ
VRDQVGHPAFALVNKATGQALRHAIAECQEVLLTQYEGASTYDENVL
WSESEDMGYGYRTVRMANNIGLNLDAFQGDRRNGGIRDGTRAVLWK
WNKQDNQLWKLSPCY

>Picsi5
GQIVRVCSKANPDYALAIRDGRAVMVFYNPNDPTMQWVKDESWSNQ
VRDQVGHPAFALVNKATGQALRHAIAESQEVLLTQYKGPSTYDENIL
WSESEDMGYGYRTVRMANNIGLNLDAFQGDRRNGGIRDGTRAVLWK
WNKQDNQLWKLSPCY

>Picsi6
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WSESEDMGYGYRTVRMANNIGLNLDAFQGDRRNGGIRDGTRAVLWK
WNKQDNQLWKLSPCY

>Picsi7
GETVKIYCEANPDFLLASRNESVVMVPANESDPSQQWIMDTSWSVKA
KDDAGFPAFALVNKATGQALRHGRSEKDKVTLGPYHPDDLNEAVLFT
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KKESQKWKISPI

>Picsi8N
GEIVKIYCEANPEYYLTAKEDSVVLAPGDESNPYQQWIIDGTWGIRVK
DSAGFPAFALINKATRQALRHGKEEKEKVHTCPYSKDELNEVVLWTQ
SDDVGNGYKCIRPVDNTDLNLDANHGDPESGGIQDGTDLILFKWKKQ
ENQKWKILPIS

>Picsi8C
GQSVRIYCEQSPEYFLTVRDGEVVLTPGDADDVSQHWIKVDEWGNKI
RDEVGFPAFALVSKATLKALKHGSQEWDRVELSYYNENDLDESVLWT
QSADVGRGYQCIRPVGNIHLNIDAKLADGKHGNVEDGNELILFSWKK
QKNQKWKMLPVD

>Picsi9N
GETVKIYCEANPDFLLASRNESVVMVPANESDPSQQWIMDTSSSVKA
KDDAGFPAFALVNKATGQALRHGRSEKDKVTLGPYHPDDLNEAVLFT
QSADVGKGYQCIRPVNNTHLNLDASAGDDKHHVALSEGTEIVLCKWN
KKESQKWKISPIL

>Picsi9C
GSTVRIHCEANPEFFLAARGDVAVLAPENPRDPHQQWIKVDSWGLRV
KDEAGFPAFALVNKATRHALKHGDKEWDQIYLADYNHDKAEQSVLW
TLSADVGNGYQCLRPVNNINLNMDAKAADGHVGGIRDGNELILFEWK
KQSNQKWKLQPVH

Sequence alignment of EEA domains**

CLUSTAL 2.0.3 multiple sequence alignment

```
Orysa4N         -PTFKIFCRADEG-YCLTVRHDA-VVLAPTNPRDDCQHWYKDMRHSTRVKDEEGHPAFAL 57
Orysa5N         -QIFKIFCRANEN-YCLTVRDSA-VVLAPVNPKDEHQHWFKDMRFSTKVKDGEGMPAFAL 57
Orysa3N         -PTFKIFCRADEG-YCVAVREGN-VVLAPTNPRDEHQHWYKDMRFSAKIKDEEGNPAFAL 57
Orysa4C         EPTVRILCRADEA-YSLTVRNGA-VCLAPTNPRDDFQHWVKDMRHSTSIKDEEGYPAFAL 58
Orysa3C         -PTVRIFCKADEG-FSVTVRGGS-VCLAPTNPRDEYQHWIKDMRHSNSIKDEEGYPAFAL 57
Orysa5C         VHTVRVFSAAGED-YCLTVRNGT-ACLAPKNPRDDYQHWIKDMRHSNKIRDEEGYPAFAL 58
Triae           -PTVKIYCRANPN-YAMSVRNGK-VVLAPANPKDDYQHWIKDMRWSTSIKDEEGYPAFAM 57
Orysa1          -PTVKVYCRANPN-YAMTARNGA-VVLAPANPKDEYQHWIKDMRWSTSIKDEEGYPAFAL 57
Orysa2          -VTHRIYCKAGEDNYSLAVRDGK-VCLVRSDRDDHTQHWVKDMKYSTRVKDEEGYPAMAL 58
Arath           -ATVKVYSKAEPN-YNLTIRDGK-VILAPADPSDEAQHWYKDEKYSTKVKDADGHPCFAL 57
Poptr           -PSFKVYSKAQPE-FHLTIRGGK-VILAPSNPSDEFQNWYKDEKYSTRVKDSEGCPAFAL 57
Vitvi           -PTVRVFCKAKPN-HSLTILDGK-VYLAPSDKTDMLQHWIKDEKYSTSVKDEEGFPSFAL 57
EEA             -PTYRVYCRAAPN-YNMIVGKGV-AFLAPIDETNELQYWYKDDTYS-YIKDEAGLPAFSL 56
Picsi7          GETVKIYCEANPD-FLLASRNES-VVMVPANESDPSQQWIMDTSWSVKAKDDAGFPAFAL 58
Picsi9N         GETVKIYCEANPD-FLLASRNES-VVMVPANESDPSQQWIMDTSSSVKAKDDAGFPAFAL 58
Picsi8N         GEIVKIYCEANPE-YYLTAKEDS-VVLAPGDESNPYQQWIIDGTWGIRVKDSAGFPAFAL 58
Picsi8C         GQSVRIYCEQSPE-YFLTVRDGE-VVLTPGDADDVSQHWIKVDEWGNKIRDEVGFPAFAL 58
Picsi9C         GSTVRIHCEANPE-FFLAARGDV-AVLAPENPRDPHQQWIKVDSWGLRVKDEAGFPAFAL 58
Physco1N        -EAVRLHCRADPN-FCLAAIPGQGPVMVPNNESDAYQVWYKDESMSNRVKDESGAHAFSL 58
Physco1C        -HAVRLHCRADPN-FSIAVIPGQGTIMVPTNASDAHQIWYRDESMSNRVTDESGAHAFAL 58
Physco2         -HPVRIHCKADPS-YNLAVVPGQGPVMVPTDISDDYQVWYKDETISTRVTDETGASAFSL 58
Physco3         -LPVRLHCKADPN-FNLAAVPGQGPVMVPFSPNDDFQVWYKDVTMSTRVKDETGSSAFSL 58
Picsi1          GQVVRVFTKANPD-FSLAIRNGS-AVLVHANAHDKHQQWVNDETYSTKVKDEANCPSFSL 58
Picsi2          GQVVRVLTKANPD-FSLAIRNGS-AVLVHANANDKHQQWVMDETYSTKVKDEASCPSFSL 58
Picsi3          GQIVRVCSKANPD-YALAIRDGR-AVMVFYNPNDPTMQWVKDESWSNQVRDQVGHPAFAL 58
Picsi4          GQIVRVCSKANPD-YALAIRDGR-AVMVFYNPNDPTMQWVKDESWSNQVRDQVGHPAFAL 58
Picsi5          GQIVRVCSKANPD-YALAIRDGR-AVMVFYNPNDPTMQWVKDESWSNQVRDQVGHPAFAL 58
Picsi6          GQIVRVCSKANPD-YALAIRDGR-AVMVFYNPNDPTMQWVKDESWSNQVRDQVGHPAFAL 58
                    ::        . :         :.  .  :    *      .    *  .  .:::
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Orysa4N         VNRATGLAVKHSLGQSHPVKLVPYN-PEYQDESVLWTESKDVGHGFRCIRMVNNIYLNLD 116
Orysa5N         VNKATGLAVKHSLGQSHPVKLVPFN-PEYEDASVLWTESKDVGKGFRCIRMVNNTRLNLD 116
Orysa3N         VNKATGLAIKHSLGQGHPVKLAPFN-PEYPDESVLWTESGDVGKSFRCIRMLNNIRLNFD 116
Orysa4C         VNKATGEAIKHSLGQSHPVRLVPYN-PEYLDESVLWTESKDVGHGFRCVRMVNNIYLNFD 117
Orysa3C         VNRVTGEAIKHSQGEGHPVKLVPYN-PGYQDESVLWTESRDVGHGFRCIRMVNNIYLNFD 116
Orysa5C         VNKVTGEAIKHSTGQGHPVKLVPYN-PEYQDESVLWTESKDVGKGFRCIRMVNNIYLNFD 117
Triae           VNKATGQAIKHSLGQSHPVRLVPYN-PDYLDESVLWTESRDVGNGFRCVRMVNNIYLNFD 116
Orysa1          VNKATGQAIKHSLGQSHPVRLVPYN-PEVMDESVLWTESRDVGNGFRCIRMVNNIYLNFD 116
Orysa2          VNKATGDALKHSIGQSHPVRLVRYN-PEYMDESVLWTESRDVGSGFRCIRMVNNIYLNFD 117
Arath           VNKATGEAMKHSVGATHPVHLIRYV-PDKLDESVLWTESKDFGDGYRTIRMVNNTRLNVD 116
Poptr           VNKATGQAMKHSIGEAHPVQLIPYN-PDVLDESILWTESKDLGDGFRAVRMVNNTHLNVD 116
Vitvi           VNKATGQAMKHSIGASHPVQLIPYN-PDVLDESVLWTESKDLGDNFRSIRMINNIHLNVD 116
EEA             VNKATGLTLKHSNHHPVPVKLVTYN-PNVVDESVLWSQADDRGDGYSAIRSLTNPASHLE 115
Picsi7          VNKATGQALRHGRSEKDKVTLGPYH-PDDLNEAVLFTQSADVGKGYQCIRPVNNTHLNLD 117
Picsi9N         VNKATGQALRHGRSEKDKVTLGPYH-PDDLNEAVLFTQSADVGKGYQCIRPVNNTHLNLD 117
Picsi8N         INKATRQALRHGKEEKEKVHTCPYS-KDELNEVVLWTQSDDVGNGYKCIRPVDNTDLNLD 117
Picsi8C         VSKATLKALKHGSQEWDRVELSYYN-ENDLDESVLWTQSADVGRGYQCIRPVGNIHLNID 117
Picsi9C         VNKATRHALKHGDKEWDQIYLADYN-HDKAEQSVLWTLSADVGNGYQCLRPVNNINLNMD 117
Physco1N        INKATGECLRHPPEDLQQCLLVVYE-PNAQDESVLWTMSEDMGQGYRCIRVVTSITRNLD 117
Physco1C        INKVTGECLRHPPEDLKQCLLADYE-PNGLDESVLWTMSEDMGQGYRCIRVVTSITRNLD 117
Physco2         INKATGQALRHAPEDLKQCLLTQYE-PNGLDDTIWWTMSEDMGQGYHCIRLATDITRNMD 117
Physco3         INKATGQALRHAPEDLAQCLLADYD-SNALDQTVLWTMSEDMGQGYCCIRLASQITRNLD 117
Picsi1          VNKATGQALKHGLGETQPVLLTEYQ-LNTFDESILWTMSGDMGQGYRTIRLVNNIHLNLD 117
Picsi2          VNKATGQVLKHGLGETQPVLLTEYQ-LNTFDESILWTMSGDMGQGYRTIRLVNNIHLNLD 117
Picsi3          VNKATGQALRHATAECQEVLLTQYEGASTYDENVLWSESEDMGYGYRTVRMANNIGLNLD 118
Picsi4          VNKATGQALRHAIAECQEVLLTQYEGASTYDENVLWSESEDMGYGYRTVRMANNIGLNLD 118
Picsi5          VNKATGQALRHAIAESQEVLLTQYKGPSTYDENILWSESEDMGYGYRTVRMANNIGLNLD 118
Picsi6          VNKATGQALRHAIAESHEVLLTQYEGPSTYDENILWSESEDMGYGYRTVRMANNIGLNLD 118
                :.:.*   ::*            :      :  : :: : * * .:  :*   .   :.:

Orysa4N         AFHGD-KSHGGVHDGTTVVLWEWCKGDNQCWKILPW-- 151
Orysa5N         AFHGD-KDHGGVRDGTTVVLWEWCKGDNQSWKILPW-- 151
Orysa3N         AFHGD-KDHGGVHDGTTIVLWEWAKGDNQCWKILPW-- 151
Orysa4C         AFHGD-KDHGGVHDGTTVVLWEWCKGDNQRWKILPW-- 152
Orysa3C         ALHGD-KDHGGVRDGTTVALWKWCEGDNQRWKIVPW-- 151
Orysa5C         AFHGD-KDHGGIHDGTEIVLWKWCEGDNQRWKILPW-- 152
Triae           ALNGD-KYHGGVRDGTEVVLWKWCEGDNQRWKLQPYY- 152
Orysa1          AFHGD-KYHGGVRDGTDIVLWKWCEGDNQRWKIQPYY- 152
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Orysa2          ALHGD-KDHGGVRDGTTLVLWEWCEGDNQRWKIVPW-- 152
Arath           AYHGD-SKSGGVRDGTTIVLWDWNKGDNQLWKIFPF-- 151
Poptr           AFHGD-KKSGGVHDGTSIVLWKWNKGDNQRWKIIPTRY 153
Vitvi           ALHGD-RSHGSVHDCTTIVLNKWKKGDNQLWKISLY-- 151
EEA             AAPLN-DWS---YNGAIIMGGVWIDAYNQQWKIEPHTG 149
Picsi7          ASAGDDKHHVALSEGTEIVLCKWNKKESQKWKISPI-- 153
Picsi9N         ASAGDDKHHVALSEGTEIVLCKWNKKESQKWKISPIL- 154
Picsi8N         ANHGD-PESGGIQDGTDLILFKWKKQENQKWKILPIS- 153
Picsi8C         AKLAD-GKHGNVEDGNELILFSWKKQKNQKWKMLPVD- 153
Picsi9C         AKAAD-GHVGGIRDGNELILFEWKKQSNQKWKLQPVH- 153
Physco1N        VLRGD-KKSGGMKNGSSVITFAWKNQDNQVWKMTPV-- 152
Physco1C        VLRGD-KKSGGVKTGSPLITFAWKNQDNQVWKMTPA-- 152
Physco2         VLRGD-KKSGGVKEGSPVITFAWKKQDNQIWKMTPA-- 152
Physco3         VLRGD-KKSGGVKEGSPVITFAWKKQDNQIWKMITA-- 152
Picsi1          AFHGD-KKSGGIKDGNPVVLWSWKKGDNQLWKIVPY-- 152
Picsi2          AFHGD-KKSGGIKDGNPVVLWSWKKGDNQLWKIVPY-- 152
Picsi3          AFQGD-RRNGGIRDGTRAVLWKWNKQDNQLWKLSPCY- 154
Picsi4          AFQGD-RRNGGIRDGTRAVLWKWNKQDNQLWKLSPCY- 154
Picsi5          AFQGD-RRNGGIRDGTRAVLWKWNKQDNQLWKLSPCY- 154
Picsi6          AFQGD-RRNGGIRDGTRAVLWKWNKQDNQLWKLSPCY- 154
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**Alignment of all sequences except Plama1, Plama2 and Physco4. The latter sequences were omitted to get a better alignment of EEA with other proteins with EUL domain(s).