Table S2. A full listing of all detected interactions using AVEXIS. Interactions were classified into 10 groups (A to J) according to the criteria listed below. Interactions were considered as positive when identified in the first screen and detected in both bait-prey orientations (classes A, C, D, E and F), and are numbered 1 to 17. Interactions that did not meet these criteria, 18 to 43, are also listed together with their AVEXIS classification. Detailed SPR analyses classified interactions as: 1 to 1 = interactions fitting a simple first order 1:1 dissociation model (see methods); complex = interactions with complex dissociation kinetics and 2-phase = interaction showing 2 distinct binding phases (for example, see interaction 1, Fig. S1). The half-lives of the 1:1 interactions (and the fast dissociation of the 2-phase interaction 1) are listed next to the interaction numbers and, where appropriate, the protein that was immobilized on the streptavidin chip is indicated. In 4 cases (interactions 4, 5, 6 and 8) the SPR analysis was performed in both orientations; where they differ, the most rapid half-life is the one used in Fig. 2B. The UniProt accession numbers are listed for all proteins together with the IntAct accession numbers for each interaction; separate accession numbers are given for both the AVEXIS or SPR detection method and for each bait-prey orientation. N.D. = not determined; N/A = not applicable; negative = no binding detected; immob = indicates which protein was the one immobilized on the streptavidin chip. AVEXIS classifications are:

A - Homophilic interaction seen in both the primary and validation screens.

B - Homophilic interaction positive in either the primary or validation screen.

C - Heterophilic interaction positive in both bait-prey orientations in the primary and validation screens. Positive 4 out of 4 times tested.

D - Heterophilic interaction positive in both bait-prey orientations in either the primary or validation screens. Positive 3 out of 4 times tested.

E - Heterophilic interaction positive in one bait-prey orientation in the primary screen but other orientation not tested; positive in both orientations in the validation screen. Positive 3 out of 3 times tested.

F - Heterophilic interaction positive in one bait-prey orientation in the primary screen but other orientation not tested; also positive in one orientation only in validation screen (both orientations tested) but in different orientation to the primary screen. Positive 2 out of 3 times tested.

G - Heterophilic interaction positive in one bait-prey orientation only in both the primary and validation screen. Positive 2 out of 4 times tested.

H - Heterophilic interaction negative in both bait-prey orientations in the primary screen but positive in both orientations in the validation screen. Positive 2 out of 4 times tested.

I - Heterophilic interaction positive in one bait-prey orientation in the primary screen but other orientation not tested; positive in only the same orientation in the validation screen (both orientations tested). Positive 2 out of 3 times tested.

J - Heterophilic interaction negative in one bait-prey orientation in the primary screen but other orientation not tested; positive in both orientations in the validation screen. Positive 2 out of 3 times tested.

Note that in AVEXIS classes G and I, the interaction is bait-prey orientation dependent. In these cases, the bait is listed as protein 1 and the prey as protein 2.

Interaction number	AVEXIS interactions						SPR interactions			
	Protein 1	UniProtKB AC	Protein 2	UniProtKB AC	AVEXIS classification	IntAct AC	Binding type	t1/2(s) Protein immobilized 1	t1/2(s) Protein immobilized 2	IntAct AC
	Homophilic									
1	Mag	A4JYG3			A	EBI-1579533	2-phase	≤0.1	N/A	EBI-1580092
2	Kirrel	A4JYG2			A	EBI-1579496	1 to 1	0.9	N/A	EBI-1580101
3	Zgc:136455	A4JYF7			A	EBI-1579478	1 to 1	0.3	N/A	EBI-1580111
	Heterophilic									
4	Jam2	A4JYM3	Jam3b	A3KPA0	C	EBI-1579631,EBI-1579622	1 to 1	1.7	1.5	EBI-1580121,EBI-1580398
5	Mpzl2	A4JYL3	Mpzl3	A4JYI5	C	EBI-1579312,EBI-1579274	1 to 1	0.6	1.1	EBI-1580131,EBI-1580420
6	Mpzl3	A4JYI5	Cssl:d179	A4JYL8	C	EBI-1579289,EBI-1579670	1 to 1	0.2	≤0.1	EBI-1580141,EBI-1580446
7	Ncam1	Q90YM1	Musk FL	Q5J1R9	C	EBI-1579558,EBI-1579651	1 to 1	≤0.1	N.D.	EBI-1580152
8	Zgc:136455	A4JYF7	Zgc:110372	A4JYK9	D	EBI-1579581,EBI-1579563	1 to 1	0.3	0.3	EBI-1580162,EBI-1580472
9	Zgc:136455	A4JYF7	Negr1	A4JYF6	D	EBI-1579403,EBI-1579606	1 to 1	N.D.	≤0.1	EBI-1580172
10	Pdgfrl	Q7ZU88	Musk FL	Q5J1R9	E	EBI-1579468,EBI-1579307	complex	immob		EBI-1580482
11	Hapln2	A2CF10	Pdgfrl	Q7ZU88	E	EBI-1579430,EBI-1579261	N.D.			
12	Hapln2	A2CF10	Sid4	A4JYL6	E	EBI-1579279,EBI-1579356	N.D.			
13	Sid4	A4JYL6	Fgfrl1b	A4JYG1	E	EBI-1579455,EBI-1579506	N.D.			
14	Fgfr4	A4JYD8	Fgfrl1b	A4JYG1	E	EBI-1579422,EBI-1579553	N.D.			
15	Negr1	A4JYF6	Zgc:110372	A4JYK9	F	EBI-1579675,EBI-1579284	1 to 1	0.4	N.D.	EBI-1580182
16	Hapln2	A2CF10	Boc	A4JYD4	F	EBI-1579338,EBI-1579294	N.D.			
17	Fgfrl1a	Q7SX76	Fgfrl1b	A4JYG1	F	EBI-1579395,EBI-1579376	N.D.			
Other interactions										
	Homophilic									
18	Alcam	A4JYG4			B	EBI-1579646	1 to 1	≤0.1	N/A	EBI-1580193
19	Hapln2	A2CF10			B	EBI-1579327	N.D.			
20	Negr1	A4JYF6			B	EBI-1579317	N.D.			
21	Mpzl2	A4JYL3			B	EBI-1579501	1 to 1	≤0.1	N/A	EBI-1580203
22	Cssl:d220	A4JYP5			B	EBI-1579473	1 to 1	≤0.1		EBI-1580213
23	DIC	A4JYS0			B	EBI-1579390	N.D.			
24	Nlcam	A0S0K7			B	EBI-1579586	1 to 1	≤0.1	N/A	EBI-1580233
25	Pdgfrl	Q7ZU88			B	EBI-1579525	N.D.			
26	Zgc:85888	Q6NW92			B	EBI-1579636	N.D.			
27	Sid4	A4JYL6			B	EBI-1579520	N.D.			
28	Boc	A4JYD4			B	EBI-1579256	N.D.			
29	Musk FL	Q5J1R9			B	EBI-1579435	complex			EBI-1580502
	Heterophilic									
30	Mag	Q5W433	Cssl:d811	A4JYF3	G	EBI-1579450	negative		immob	
31	Fgfrl1a	Q7SX76	Sid4	A4JYL6	H	EBI-1579460,EBI-1579491	N.D.			
32	Fgfrl1a	Q7SX76	Fgfr4	A4JYD8	H	EBI-1579445,EBI-1579385	N.D.			
33	Pdgfrl	Q7ZU88	Zgc:85888	Q6NW92	H	EBI-1579573,EBI-1579299	N.D.			
34	Pdgfrl	Q7ZU88	Sid4	A4JYL6	H	EBI-1579417,EBI-1579543	N.D.			
35	Pdgfrl	Q7ZU88	Boc	A4JYD4	H	EBI-1579598,EBI-1579659	N.D.			
36	Zgc:85888	Q6NW92	Sid4	A4JYL6	H	EBI-1579269,EBI-1579568	N.D.			
37	Sid4	A4JYL6	Boc	A4JYD4	H	EBI-1579538,EBI-1579548	N.D.			
38	Boc	A4JYD4	Fgfr4	Q90413	H	EBI-1579343,EBI-1579440	N.D.			
39	Fgfrl1a	Q7SX76	Musk FL	Q5J1R9	I	EBI-1579641	complex	immob		EBI-1580511
40	Pdgfrl	Q7ZU88	Musk SV1	A4JYH2	I	EBI-1579251	complex	immob		EBI-1580520
41	Sid4	A4JYL6	Musk SV1	A4JYH2	I	EBI-1579486	complex	immob		EBI-1580529
42	Hapln2	A2CF10	Zgc:85888	Q6NW92	J	EBI-1579365,EBI-1579515	N.D.			
43	Zgc:85888	Q6NW92	Musk FL	Q5J1R9	J	EBI-1579322,EBI-1579348	N.D.			