

S2 Table. Basic graph statistics for the RP genes interaction networks.

Comparison of the number of nodes (gene/protein) and edges (interactions) provided by the different datasets considered, as well as four intersections: joining interactions filtered from literature abstracts and full text (“Sparsers ALL”); its combination with iHOP curated interactions (“Sparsers + iHOP”); the merge of high-throughput data (“BioGRID + STRING”); and the result of processing

all together (“ALL DBs”). “Hsap Nodes” were filtered from BioGRID human-specific interactions. “Unique Nodes/Edges” correspond to the simplified set of interactions that define the integrated graph from which the RP network was filtered out. “Unique Nodes” also include the RP genes that had no reported interactions on each dataset. Last three columns show results on RPGeNet interaction

network, considering non-syndromic genes (75 RP/LCA genes) and syndromic genes (35 genes) separately and all together (110 genes). This last column data were used to feed the RPGeNet webapp. Graph statistics are described in depth on Newman *et al* [1]. Calculations for all the other columns are based on a preliminary set of 62 selected non-syndromic RP genes.

SET	Sparsers Abstracts	Sparsers Full-Text	Sparsers All	iHOP	Sparsers + iHOP	BioGRID	STRING	BioGRID + STRING	ALL DBs	RPGeNet v1.0 Genes		
										Non-Syndr.	Syndromic	Total RP/LCA
DATABASES												
Total Nodes	68	380	388	136	488	51,877	15,993	63,068	63,139	63,139	63,139	63,139
Hsap Nodes						15,481		54,824	54,885	54,885	54,885	54,885
Total Edges	64	628	692	141	833	761,693	926,130	1,687,823	1,688,656	1,688,656	1,688,656	1,688,656
Unique Nodes	120	413	421	157	500	15,394	15,999	26,889	26,962	22,371	22,368	22,372
Unique Edges	60	440	459	117	560	159,034	640,679	794,048	794,543	752,063	752,062	752,062
RP _{FOUND}	10 of 62	29 of 62	29 of 62	40 of 62	48 of 62	53 of 62	14 of 62	55 of 62	56 of 62	70 of 75	33 of 35	103 of 110
SKELETON GRAPH												
#Nodes	5	26	26	11	34	289	80	470	532	902	273	1,287
#Edges	4	33	33	8	43	647	150	1,148	1,277	3,563	781	5,883
Density	0.2000	0.0508	0.0508	0.0727	0.0383	0.0078	0.0237	0.0052	0.0045	0.0044	0.0105	0.0036
#Islands	1	1	1	3	2	1	1	1	1	1	1	1
Global Cluster Coef.	0	0.0845	0.0845	0	0.0957	0.0395	0.0244	0.0151	0.0176	0.0439	0.0434	0.0433
Edge Connectivity	0	0	0	0	0	0	0	0	0	0	0	0
Graph Diameter	1	6	6	2	6	12	11	14	14	11	8	10
Graph Reciprocity	0	0.1212	0.1212	0	0.1395	0.0433	0.1867	0.1132	0.1096	0.3441	0.3304	0.3678
Avg. Graph Degree	1.6000	2.5385	2.5385	1.4546	2.5294	4.4775	3.7500	4.8851	4.8008	7.9002	5.7216	9.1422
Avg. Graph Closeness	6.33E-2	2.10E-3	2.10E-3	1.04E-2	1.16E-3	1.04E-4	8.26E-4	3.22E-5	3.82E-5	1.34E-4	3.07E-4	8.47E-5
Avg. Graph Betweenness	0	10.7692	10.7692	0.2727	11.8824	998.0554	229.7625	1,778,062	2,043,927	2,890.857	842.319	3,998.789
Avg. Local Cluster Coef.	0	0.0931	0.0931	0	0.0918	0.0381	0.0049	0.0118	0.0179	0.0399	0.0449	0.0439
Avg. Eigenvector Centrality	0.7464	0.2722	0.2722	0.3879	0.2122	0.0642	0.1214	0.0619	0.0601	0.0462	0.07535	0.0362
RP _{CONNECTED}	5 of 62	15 of 62	15 of 62	11 of 62	20 of 62	46 of 62	14 of 62	49 of 62	56 of 62	70 of 75	33 of 35	103 of 110
LEVEL 1 GRAPH												
#Nodes	28	139	144	124	236	13,033	9,277	21,354	21,718	19,120	16,330	19,840
#Edges	28	174	181	108	274	54,202	38,887	155,903	163,420	262,113	110,536	327,409
Density	0.0370	0.0091	0.0088	0.0071	0.0049	0.0003	0.0005	0.0003	0.0003	0.0007	0.0004	0.0008
#Islands	5	12	12	24	22	3	1	3	1	1	1	1
Global Cluster Coef.	0.1017	0.0644	0.0627	0.0451	0.0512	0.0041	0.0016	0.0063	0.0067	0.0189	0.0046	0.0250
Edge Connectivity	0	0	0	0	0	0	1	0	0	0	0	0
Graph Diameter	3	7	7	4	11	7	7	7	9	7	6	7
Graph Reciprocity	0.2143	0.1839	0.1879	0.0556	0.1606	0.2069	1.0000	0.7086	0.7117	0.8401	0.8148	0.8447
Avg. Graph Degree	2.0000	2.5036	2.5139	1.7419	2.3220	8.3177	8.3835	14.6018	15.0493	27.4177	13.5378	33.0049
Avg. Graph Closeness	1.44E-3	5.96E-5	5.57E-5	6.66E-5	1.95E-5	4.43E-8	4.41E-5	5.08E-8	4.94E-8	5.84E-8	6.72E-8	5.40E-8
Avg. Graph Betweenness	1.3214	30.2158	32.1528	1.2661	40.0000	11,252.75	13,868.46	31,840.04	32,823.25	28,248.05	21,405.85	30,063.80
Avg. Local Cluster Coef.	0.1708	0.2811	0.2875	0.0432	0.2065	0.5709	0.0690	0.2619	0.2550	0.1768	0.2078	0.1655
Avg. Eigenvector Centrality	0.1887	0.0721	0.0709	0.0545	0.0470	0.0089	0.0101	0.0067	0.0067	0.0083	0.0077	0.0085
RP _{CONNECTED}	10 of 62	29 of 62	29 of 62	38 of 62	47 of 62	49 of 62	14 of 62	51 of 62	56 of 62	70 of 75	33 of 35	103 of 110