

Single Nucleotide Polymorphism Spectral Decomposition (SNPSpD) - RESULTS

Matrix of pairwise LD correlations for your markers:

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	1	0.73	0.10	0.02	-0.16	0.10	0.10	-0.01	0.09	0.05	0.14	-0.05	-0.06	-0.01	0.02	-0.01	0.19	0.12	-0.05	-0.08	0.06	0.04	0.00
2	0.73	1	0.20	-0.18	0.02	-0.13	0.12	-0.04	0.13	0.07	-0.01	-0.05	-0.03	0.06	0.09	0.00	0.20	0.12	-0.08	-0.11	0.10	0.03	-0.15
3	0.10	0.20	1	-0.03	0.08	-0.25	0.03	-0.13	0.05	0.10	-0.04	0.02	-0.06	0.05	0.01	-0.07	0.06	0.03	0.04	-0.01	-0.03	-0.04	-0.04
4	0.02	-0.18	-0.03	1	-0.18	0.47	0.10	-0.01	0.05	0.05	0.02	-0.08	0.06	0.18	-0.01	-0.01	-0.06	-0.01	-0.00	-0.03	0.07	0.04	0.04
5	-0.16	0.02	0.08	-0.18	1	-0.32	0.09	0.03	0.05	0.04	-0.19	-0.04	-0.06	0.09	-0.02	-0.09	0.08	0.05	0.02	0.02	0.03	0.04	-0.19
6	0.10	-0.13	-0.25	0.47	-0.32	1	0.07	0.01	0.03	0.13	0.06	-0.01	0.00	0.00	0.01	0.08	-0.10	-0.00	-0.02	-0.05	-0.02	0.07	0.07
7	0.10	0.12	0.03	0.10	0.09	0.07	1	-0.43	0.94	0.58	0.20	0.06	-0.01	0.04	-0.04	-0.13	0.02	-0.03	0.03	-0.06	0.09	0.07	-0.01
8	-0.01	-0.04	-0.13	-0.01	0.03	0.01	-0.43	1	-0.38	-0.22	-0.10	-0.02	0.04	0.03	-0.11	0.10	-0.01	0.10	0.06	0.08	-0.01	0.02	-0.18
9	0.09	0.13	0.05	0.05	0.05	0.03	0.94	-0.38	1	0.59	0.18	0.04	-0.01	0.02	-0.04	-0.13	0.00	-0.06	0.03	-0.10	0.07	0.04	-0.04
10	0.05	0.07	0.10	0.05	0.04	0.13	0.58	-0.22	0.59	1	-0.28	0.20	-0.07	-0.01	-0.03	-0.06	0.03	-0.05	-0.01	-0.07	0.05	0.13	-0.11
11	0.14	-0.01	-0.04	0.02	-0.19	0.06	0.20	-0.10	0.18	-0.28	1	-0.08	0.01	-0.04	-0.00	-0.00	-0.00	0.13	0.09	0.03	0.01	-0.07	0.21
12	-0.05	-0.05	0.02	-0.08	-0.04	-0.01	0.06	-0.02	0.04	0.20	-0.08	1	-0.06	0.03	0.16	0.04	-0.00	0.01	-0.11	0.17	-0.01	0.05	-0.07
13	-0.06	-0.03	-0.06	0.06	-0.06	0.00	-0.01	0.04	-0.01	-0.07	0.01	-0.06	1	0.14	0.01	0.05	-0.04	-0.00	-0.01	0.04	0.07	0.05	-0.00
14	-0.01	0.06	0.05	0.18	0.09	0.00	0.04	0.03	0.02	-0.01	-0.04	0.03	0.14	1	0.04	0.02	0.07	0.09	0.05	0.03	-0.03	0.08	-0.06
15	0.02	0.09	0.01	-0.01	-0.02	0.01	-0.04	-0.11	-0.04	-0.03	-0.00	0.16	0.01	0.04	1	0.09	0.04	0.06	-0.11	0.04	0.02	0.07	-0.05
16	-0.01	0.00	-0.07	-0.01	-0.09	0.08	-0.13	0.10	-0.13	-0.06	-0.00	0.04	0.05	0.02	0.09	1	-0.18	0.59	0.10	0.30	-0.08	-0.04	0.01
17	0.19	0.20	0.06	-0.06	0.08	-0.10	0.02	-0.01	0.00	0.03	-0.00	-0.00	-0.04	0.07	0.04	-0.18	1	0.39	-0.34	0.19	0.10	0.16	-0.12
18	0.12	0.12	0.03	-0.01	0.05	-0.00	-0.03	0.10	-0.06	-0.05	0.13	0.01	-0.00	0.09	0.06	0.59	0.39	1	0.05	0.35	-0.02	0.07	0.01
19	-0.05	-0.08	0.04	-0.00	0.02	-0.02	0.03	0.06	0.03	-0.01	0.09	-0.11	-0.01	0.05	-0.11	0.10	-0.34	0.05	1	-0.10	0.07	0.10	0.05
20	-0.08	-0.11	-0.01	-0.03	0.02	-0.05	-0.06	0.08	-0.10	-0.07	0.03	0.17	0.04	0.03	0.04	0.30	0.19	0.35	-0.10	1	-0.04	-0.05	0.14
21	0.06	0.10	-0.03	0.07	0.03	-0.02	0.09	-0.01	0.07	0.05	0.01	-0.01	0.07	-0.03	0.02	-0.08	0.10	-0.02	0.07	-0.04	1	0.13	-0.07
22	0.04	0.03	-0.04	0.04	0.04	0.07	0.07	0.02	0.04	0.13	-0.07	0.05	0.05	0.08	0.07	-0.04	0.16	0.07	0.10	-0.05	0.13	1	-0.17
23	0.00	-0.15	-0.04	0.04	-0.19	0.07	-0.01	-0.18	-0.04	-0.11	0.21	-0.07	-0.00	-0.06	-0.05	0.01	-0.12	0.01	0.05	0.14	-0.07	-0.17	1

Original (total) number of marker loci (M):

23

For factor 1 to M, original eigenvalues associated with the LD correlation matrix:

1 2.8530
2 2.1565
3 1.9315
4 1.7169
5 1.5838
6 1.3982
7 1.2661
8 1.1412
9 1.1124
10 0.9868
11 0.9444

12 0.9004
13 0.8474
14 0.7921
15 0.6434
16 0.5895
17 0.5481
18 0.5030
19 0.4274
20 0.2664
21 0.1880
22 0.1560
23 0.0476

Variance of the observed eigenvalues:

0.4876

Effective number of independent marker loci [Meff]:

22.5336

Experiment-wide significance threshold required to keep Type I error rate at 5%:

0.00221890781135168

SELECT A SUBSET OF SNPs WHILE OPTIMISING INFORMATION:

For factor 1 to M, Eigenvalues and Proportion of Variance, after Varimax Rotation:

1	2.2509	0.0979
2	1.0650	0.0463
3	1.2144	0.0528
4	1.7348	0.0754
5	1.0217	0.0444
6	1.0105	0.0439
7	1.0548	0.0459
8	1.0075	0.0438
9	1.0046	0.0437
10	1.0024	0.0436
11	1.0033	0.0436
12	1.0119	0.0440
13	1.0072	0.0438
14	1.0130	0.0440
15	1.0115	0.0440
16	0.9608	0.0418
17	1.0170	0.0442

18 1.0116 0.0440
 19 0.9987 0.0434
 20 0.6771 0.0294
 21 0.2135 0.0093
 22 0.6596 0.0287
 23 0.0483 0.0021

Principal component coefficients for varimax-rotated matrix:

- Columns represent factors (principal components) 1 to M

- Rows represent SNP 1 to M

	SNP	1	2	3	4	5	6	7	8	
1	AV1S1A	-0.0398	0.0789	0.0024	0.9441	-0.0483	-0.0086	0.0840	0.0231	
2	AV1S1B	-0.0859	0.0689	-0.0229	0.8857	0.1303	-0.0462	-0.0418	-0.0515	
3	AV6S1	-0.0192	0.0207	0.0301	0.0912	-0.0008	0.0283	-0.0196	-0.0251	
4	AV8S3	-0.0506	-0.0225	0.0073	-0.0510	-0.9583	-0.0060	0.0012	-0.0991	
5	AV12S2	-0.0534	0.0332	0.0391	-0.0600	0.0797	0.0091	-0.0938	-0.0481	
6	AV8S4	-0.0320	-0.0432	-0.0370	0.0036	-0.2495	-0.0163	0.0245	0.0059	
7	hADV14S1A	-0.9542	-0.0015	0.0511	0.0592	-0.0476	0.0143	0.0930	-0.0204	
8	hADV14S1B	0.2791	-0.0054	-0.0374	0.0023	-0.0043	0.0384	-0.0316	-0.0167	
9	hADV14S1C	-0.9700	-0.0013	0.0366	0.0474	-0.0081	0.0111	0.0721	-0.0068	
10	AV8S6	-0.5241	0.0156	0.0094	0.0234	-0.0124	-0.0004	-0.2449	0.0232	
11	AV17S1	-0.1241	0.0050	-0.0011	0.0426	-0.0018	0.0451	0.9686	0.0208	
12	AV21S1	-0.0389	-0.0114	-0.0120	-0.0346	0.0401	-0.0513	-0.0385	-0.0189	
13	hADV23S1	0.0060	-0.0206	-0.0186	-0.0280	-0.0216	-0.0081	0.0053	-0.0698	
14	AV26S1A	-0.0189	0.0341	-0.0109	0.0157	-0.0898	0.0262	-0.0191	-0.9885	
15	AV26S1B	0.0335	0.0090	-0.0431	0.0308	0.0028	-0.0525	0.0013	-0.0212	
16	AV27S1A	0.0774	-0.1208	-0.9584	0.0034	0.0079	0.0453	-0.0109	-0.0058	
17	AV27S1B	0.0002	0.9410	0.0985	0.1250	0.0251	-0.1856	0.0020	-0.0380	
18	hADV29S1	0.0243	0.3171	-0.4929	0.0868	-0.0089	0.0620	0.0929	-0.0475	
19	AV30S1	-0.0214	-0.1628	-0.0495	-0.0388	0.0061	0.9740	0.0443	-0.0276	
20	AV26S2	0.0419	0.1021	-0.1642	-0.0677	0.0095	-0.0517	0.0187	-0.0126	
21	hADV38S2	-0.0469	0.0429	0.0361	0.0464	-0.0385	0.0401	0.0014	0.0199	
22	AV39S1	-0.0353	0.0751	0.0115	0.0169	-0.0152	0.0554	-0.0320	-0.0377	
23	hDV102S2	0.0244	-0.0545	0.0080	-0.0385	-0.0125	0.0268	0.0963	0.0247	
		9	10	11	12	13	14	15	16	17
1		-0.0075	-0.0291	-0.0095	-0.0116	-0.0234	0.0309	0.0886	-0.0114	-0.0293
2		0.0558	-0.0071	-0.0585	-0.0366	0.0027	-0.0942	-0.0234	0.0124	-0.0563
3		0.0043	-0.0258	0.0197	0.0079	0.0246	-0.0186	-0.0301	0.0629	0.0023
4		-0.0031	0.0241	-0.0431	-0.0436	-0.0158	0.0125	0.0809	-0.0037	-0.0093
5		-0.0097	-0.0342	-0.0146	-0.0312	-0.0181	-0.0919	-0.9691	-0.0153	0.0122
6		0.0034	-0.0056	0.0184	-0.0032	-0.0380	0.0313	0.1576	-0.0085	-0.0273
7		-0.0216	-0.0024	-0.0397	0.0240	-0.0303	0.0021	-0.0549	0.1653	0.0021
8		-0.0658	0.0188	-0.0017	-0.0020	-0.0099	-0.1017	-0.0167	-0.9455	0.0384
9		-0.0168	0.0005	-0.0173	0.0061	-0.0047	-0.0245	-0.0066	0.1104	-0.0458
10		-0.0204	-0.0402	-0.0136	0.1230	-0.0644	-0.0469	-0.0005	0.0575	-0.0271
11		0.0011	0.0051	-0.0017	-0.0392	0.0329	0.0979	0.0945	0.0310	0.0183
12		0.0778	-0.0343	0.0040	0.9845	-0.0237	-0.0355	0.0297	0.0018	0.0862
13		0.0065	0.9935	-0.0367	-0.0334	-0.0247	-0.0021	0.0317	-0.0163	0.0199
14		0.0213	0.0709	0.0201	0.0187	-0.0373	-0.0238	-0.0454	-0.0146	0.0119
15		0.9905	0.0065	-0.0109	0.0763	-0.0353	-0.0257	0.0090	0.0572	0.0133
16		0.0446	0.0219	0.0385	0.0133	0.0184	-0.0107	0.0486	-0.0304	0.1465


```
15 AV26S1B 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0
16 AV27S1A 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
17 AV27S1B 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
18 hADV29S1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0
19 AV30S1 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
20 AV26S2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0
21 hADV38S2 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0
22 AV39S1 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0
23 hDV102S2 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0
```

=> Select one SNP to represent either:

- i. each factor,
- ii. the factors with the largest Meff eigenvalues, or
- iii. the factors explaining a selected proportion of variance.

If there are no results between the above two lines there must be a problem with your "ldmax" input files => please re-check. However, if you are 100% confident that your .pre and .map files are correct but cannot get any results, please email me, detailing your problem.

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