

## Create table for significant regions

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### Overview

Creates a spreadsheet with significant regions from a spreadsheet of p-values (in the first column). The input spreadsheet has to be marker-mapped.

This script extracts p-values more extreme than a certain significance value (cutoff) and combines the remaining markers into segments. If two markers are on different chromosomes or more than a certain distance apart (split), a new region is created.

Standard values for cutoff: 0.0001

Standard values for split: 500,000 bp (500 kb)

### Recommended Directory Location

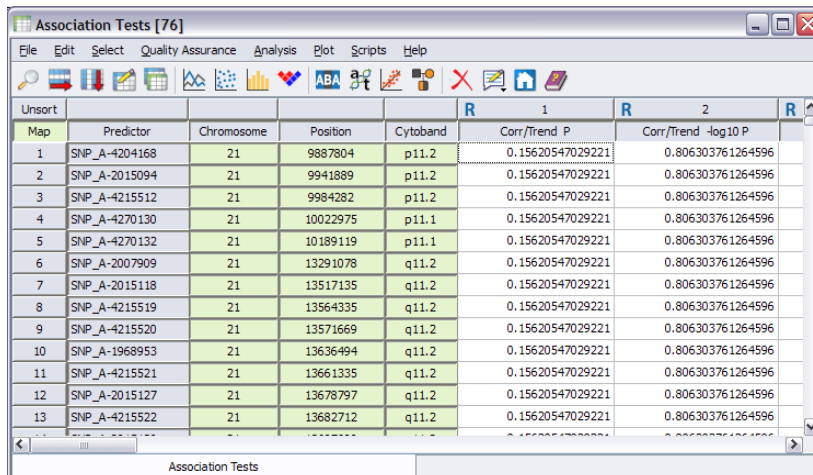
Save the script to the following directory:

\*..\Application Data\Golden Helix SVS\UserScripts\Spreadsheet\Analysis\

**Note:** The **Application Data** folder is a hidden folder on Windows operating systems and its location varies between XP and Vista. The easiest way to locate this directory on your computer is to open SVS and select **Tools > Open Folder > UserScripts Folder**. If saved to the proper folder, this script will be accessible from the spreadsheet **Analysis** menu.

### Using the Script

- 1) Open up a marker-mapped spreadsheet of association results. The spreadsheet expects that the p-value column will be in the first column.



Map	Predictor	Chromosome	Position	Cytoband	Corr/Trend P	Corr/Trend -log10 P
1	SNP_A-4204168	21	9887804	p11.2	0.15620547029221	0.806303761264596
2	SNP_A-2015094	21	9941889	p11.2	0.15620547029221	0.806303761264596
3	SNP_A-4215512	21	9984282	p11.2	0.15620547029221	0.806303761264596
4	SNP_A-4270130	21	10022975	p11.1	0.15620547029221	0.806303761264596
5	SNP_A-4270132	21	10189119	p11.1	0.15620547029221	0.806303761264596
6	SNP_A-2007909	21	13291078	q11.2	0.15620547029221	0.806303761264596
7	SNP_A-2015118	21	13517135	q11.2	0.15620547029221	0.806303761264596
8	SNP_A-4215519	21	13564335	q11.2	0.15620547029221	0.806303761264596
9	SNP_A-4215520	21	13571669	q11.2	0.15620547029221	0.806303761264596
10	SNP_A-1968953	21	13636494	q11.2	0.15620547029221	0.806303761264596
11	SNP_A-4215521	21	13661335	q11.2	0.15620547029221	0.806303761264596
12	SNP_A-2015127	21	13678797	q11.2	0.15620547029221	0.806303761264596
13	SNP_A-4215522	21	13682712	q11.2	0.15620547029221	0.806303761264596

- 2) Select **Analysis > Create table for significant regions**. And enter in the desired p-value cutoff (0.0001 default) and the desired split distance in base pairs (500000 bp default).

The resulting spreadsheet lists the significant segments found with the chromosome, start position and end position as well as the start and end markers. The length in base-pairs between the first and last markers is displayed, and the number of markers in the segment. The minimum p-value is reported as well as the average p-value for each segment.

Map	Label	segment	chromosome	start_position	stop_position	start_marker	stop_marker	length_bp	no_markers	min_pval	average_pval
1	1	1	21	15507072	16915603	SNP_A-2015361	SNP_A-2015548	1408532	168	2.4855857501965e-009	9.37500240205323e-006
2	2	2	21	17463289	18399303	SNP_A-4215576	SNP_A-4270198	936015	61	1.83125209413592e-009	1.04393741370689e-005
3	3	3	21	22848288	22865549	SNP_A-2016439	SNP_A-2016445	17262	8	3.91563217490701e-006	5.81435231517149e-006
4	4	4	21	23560488	24293049	SNP_A-1969476	SNP_A-2016676	732562	76	7.427558742675e-006	5.84927054992522e-005
5	5	5	21	25677196	27666227	SNP_A-2016925	SNP_A-2017295	1989032	226	3.66785182820234e-010	1.53207697817693e-005
6	6	6	21	28519818	29026461	SNP_A-4215788	SNP_A-4262995	506644	44	1.44677602315795e-023	1.72266014416456e-005
7	7	7	21	29724273	30507226	SNP_A-2017659	SNP_A-4209087	782954	184	1.14921590223472e-011	1.24279656470898e-005
8	8	8	21	31139401	31879105	SNP_A-2017893	SNP_A-2018020	739705	131	5.6910209203947e-012	2.00993268076535e-005
9	9	9	21	33265698	33759014	SNP_A-4270435	SNP_A-4270451	493317	10	1.11790090876956e-006	1.6710669000609e-005
10	10	10	21	35214098	35224787	SNP_A-2018528	SNP_A-2018531	10690	4	6.51616555528358e-005	6.51616555528358e-005
11	11	11	21	35844297	36220629	SNP_A-2018657	SNP_A-2018740	376333	36	2.3393327365802e-007	3.82165838382511e-005
12	12	12	21	36808673	36876522	SNP_A-2018851	SNP_A-2018874	67850	20	2.21225528636434e-006	1.55931758870027e-005
13	13	13	21	37522096	38534760	SNP_A-4270535	SNP_A-1970311	1012665	47	3.69288869717872e-010	2.86370470902947e-006
14	14	14	21	39133359	39147311	SNP_A-2019283	SNP_A-2019289	13953	10	2.3740102175144e-010	2.08056218820923e-005