

Compute Odds Ratio CI

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Overview

This script takes a logistic regression results spreadsheet and calculates 90, 95 or 99% confidence intervals for the Odds Ratio.

Recommended Directory Location

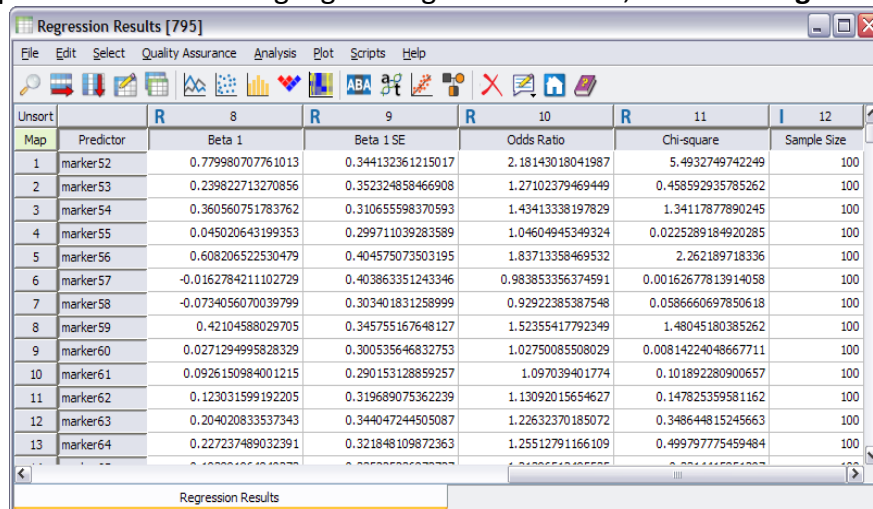
Save the script to the following directory:

*..\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 operating systems. The easiest way to locate this directory on your computer is to open SVS and go to **Tools > Open > Open UserScripts Folder** and save the script in the **\Spreadsheet\Analysis** folder. If saved to the proper folder, this script will be accessible from the spreadsheet **Analysis** menu.

Using the Script

1. Open a spreadsheet containing logistic regression results, such as in **Figure 1**.



Map	Predictor	Beta 1	Beta 1 SE	Odds Ratio	Chi-square	Sample Size
1	marker52	0.779980707761013	0.344132361215017	2.18143018041987	5.4932749742249	100
2	marker53	0.239822713270856	0.352324858466908	1.27102379469449	0.458592935785262	100
3	marker54	0.360560751783762	0.310655598370593	1.43413338197829	1.34117877890245	100
4	marker55	0.045020643199353	0.299711039283589	1.04604945349324	0.0225289184920285	100
5	marker56	0.608206522530479	0.404575073503195	1.83713358469532	2.262189718336	100
6	marker57	-0.0162784211102729	0.403863351243346	0.983853356374591	0.00162677813914058	100
7	marker58	-0.0734056070039799	0.303401831258999	0.92922385387548	0.0586660697850618	100
8	marker59	0.42104588029705	0.345755167648127	1.52355417792349	1.48045180385262	100
9	marker60	0.0271294995828329	0.300535646832753	1.02750085508029	0.00814224048667711	100
10	marker61	0.0926150984001215	0.290153128859257	1.097039401774	0.101892280900657	100
11	marker62	0.123031599192205	0.319689075362239	1.13092015654627	0.147825359581162	100
12	marker63	0.204020833537343	0.344047244505087	1.22632370185072	0.348644815245663	100
13	marker64	0.227237489032391	0.321848109872363	1.25512791166109	0.499797775459484	100

Figure 1: Logistic Regression results from genotypes numerically encoded in an additive model

2. Select **Analysis > Compute Odds Ratio CI**.

3. Select confidence level, see **Figure 2**, and click **OK**.

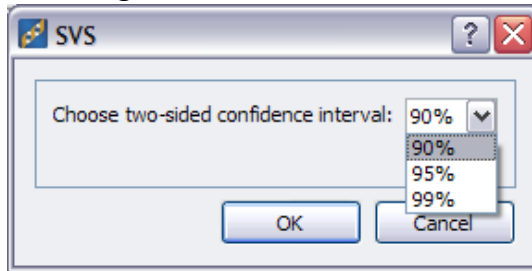


Figure 2: Confidence intervals can be computed using one of the three standard confidence levels

The resulting spreadsheet will have all of the original columns plus two additional columns for the lower and upper confidence bounds added after the Odds Ratio column. See **Figure 3**.

The image shows a spreadsheet window titled 'Regression Results plus Odds Ratio Confidence Interval - Sheet 1 [799]'. The spreadsheet has several columns: 'Map', 'Predictor', 'R', '9', 'R', '10', 'R', '11', 'R', '12', 'R', '13'. The data rows correspond to predictors marker52 through marker64. The columns contain numerical values for Beta 1 SE, Odds Ratio, Lower OR CI Bound, Upper OR CI Bound, and Chi-squa.

Map	Predictor	R	9	R	10	R	11	R	12	R	13
			Beta 1 SE		Odds Ratio		Lower OR CI Bound		Upper OR CI Bound		Chi-squa
1	marker52		0.344132361215017		2.18143018041987		1.11124530157115		4.28225669464574		5.4932
2	marker53		0.352324858466908		1.27102379469449		0.637160298338399		2.53547104377426		0.458592
3	marker54		0.310655598370593		1.43413338197829		0.78010697519023		2.63648271674913		1.34117
4	marker55		0.299711039283589		1.04604945349324		0.581343779629578		1.88222442123784		0.0225289
5	marker56		0.404575073503195		1.83713358469532		0.831303256133088		4.05996221368722		2.262
6	marker57		0.403863351243346		0.983853356374591		0.445815277151544		2.17122982647477		0.00162677
7	marker58		0.303401831258999		0.92922385387548		0.512695490270061		1.68415167872137		0.0586660
8	marker59		0.345755167648127		1.52355417792349		0.773651126244265		3.00034118005697		1.48045
9	marker60		0.300535646832753		1.02750085508029		0.570113184704218		1.85183931106323		0.00814224
10	marker61		0.290153128859257		1.097039401774		0.621210655872667		1.93733870735687		0.101892
11	marker62		0.319689075362239		1.13092015654627		0.604375860785813		2.1162003373525		0.147825
12	marker63		0.344047244505087		1.22632370185072		0.624807444388917		2.40693326436223		0.348644
13	marker64		0.321848109872363		1.25512791166109		0.667921380444424		2.35858009752961		0.499797

Figure 3: The confidence bounds have been added to this spreadsheet, all original columns remain

NOTE: If the standard error is too big the lower bound will go to 0 and the upper bound will go to “?”. In this case “?” represents infinity.