

## Design: Survival Endpoint: Two-Sample Test - Parallel Design - Logrank Given Accrual Duration and Accrual Rates

Test Parameters	
Design ID:	Des1
Design Type:	Superiority
Number of Looks:	5
Test Type:	2-Sided
Specified $\alpha$ :	0.05
Power:	0.8
Model Parameters	
$HR = \lambda_1/\lambda_c$	
Under H0:	1
Under H1:	0.667
$\delta = \ln(HR)$ :	-0.405
Var (Log HR):	Null
Allocation Ratio ( $n_1/n_c$ ):	1
Boundary Parameters	
Spacing of Looks:	Equal
Efficacy Boundary:	LD (OF)
Accrual/Dropout Parameters	
Accrual Duration:	15
Max Study Duration:	23.12
Dropout:	No

### Stopping Boundaries: Look by Look

Look #	Info. Fraction (s/s_max)	Events (s)	Cumulative $\alpha$ Spent	Boundaries	
				Efficacy Z	
				Upper	Lower
1	0.2	39.138	1.078E-6	4.877	-4.877
2	0.4	78.275	7.883E-4	3.357	-3.357
3	0.6	117.413	0.008	2.68	-2.68
4	0.8	156.55	0.024	2.29	-2.29
5	1	195.688	0.05	2.031	-2.031

### Events, Sample Size, Pipeline and Analysis Times: Look by Look (Under H0)

Look #	Info. Fraction (s/s_max)	Sample Size (n)	Events (s)	Pipeline (n-s)	Analysis Time	Incr. Boundary Crossing Prob.	
						Under H0	
						Efficacy	
						Upper	Lower
1	0.2	148.832	39.138	109.694	7.442	5.389E-7	5.389E-7
2	0.4	220.177	78.275	141.902	11.009	3.936E-4	3.936E-4
3	0.6	279.455	117.413	162.043	13.973	0.003	0.003
4	0.8	300	156.55	143.45	16.816	0.008	0.008
5	1	300	195.688	104.312	20.494	0.013	0.013

### Events, Sample Size, Pipeline and Analysis Times: Look by Look (Under H1)

Look #	Info. Fraction (s/s_max)	Sample Size (n)	Events (s)	Pipeline (n-s)	Analysis Time	Incr. Boundary Crossing Prob.	
						Under H1	
						Efficacy	
						Upper	Lower
1	0.2	162.077	39.138	122.94	8.104	3.994E-10	1.539E-4
2	0.4	239.034	78.275	160.759	11.952	1.297E-7	0.059
3	0.6	300	117.413	182.587	15.13	5.139E-7	0.257
4	0.8	300	156.55	143.45	18.55	5.847E-7	0.289
5	1	300	195.688	104.312	23.12	4.097E-7	0.195

### Survival Info. : Hazard Rates

Period #	Starting At	Hazard Rates		Hazard Ratio
		Control ( $\lambda_c$ )	Treatment ( $\lambda_{t1}$ )	Alt. ( $\lambda_{t1}/\lambda_c$ )
1	0	0.087	0.058	0.667

**Accrual Info. :**

Period #	At	Accrual Rate
1	0	20

**Sample Size Information:**

	Maximum	Expected H1	Expected H0
Sample Size (n)	300	296.392	299.797
Sample Size Treatment (n_t)	150	148.196	149.898
Sample Size Control (n_c)	150	148.196	149.898
Events (s)	195.688	157.293	194.403
Events Treatment (s_t)	87.229	70.746	97.327
Events Control (s_c)	108.458	91.064	97.327
Accrual Duration	15	14.82	14.99
Study Duration	23.12	19.083	20.38
Information	48.922	39.323	48.601

**Variable Follow-Up Design: All subjects are followed until failure, drop out or end of study.**