

## The SAS System

### The GLIMMIX Procedure

Model Information	
Data Set	WORK.ALM_NOMD
Response Variable	Total
Response Distribution	Negative Binomial
Link Function	Log
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information		
Class	Levels	Values
Treatment	5	NowBiolure Ppo PpoCombo StopNow StopNowCombo
Rep	8	1 2 3 4 5 6 7 8

Number of Observations Read	40
Number of Observations Used	40

Dimensions	
G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	6
Columns in Z	8
Subjects (Blocks in V)	1
Max Obs per Subject	40

Optimization Information	
Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	2
Lower Boundaries	2
Upper Boundaries	0
Fixed Effects	Profiled
Starting From	Data

Iteration History					
Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	0	4	21.837627518	0.07658920	0.000137
1	0	6	19.863559303	0.06427546	0.00012
2	0	4	19.888482144	0.00347956	6.025E-7
3	0	3	19.892045667	0.00070042	1.835E-7
4	0	3	19.892785527	0.00015827	0.002606
5	1	2	19.892933542	0.00001535	0.000795
6	0	3	19.892968907	0.00000210	0.000063
7	0	2	19.892973696	0.00000361	0.000329
8	0	3	19.892973889	0.00000009	0.000301
9	0	3	19.892973072	0.00000092	0.000197
10	1	2	19.892972933	0.00000015	0.000186
11	0	1	19.892973115	0.00000097	0.000083
12	0	2	19.892973007	0.00000134	0.000048
13	0	1	19.892973018	0.00000003	0.000039
14	1	2	19.892973319	0.00000041	0.000026
15	0	1	19.89297337	0.00000001	0.000024

Convergence criterion (PCONV=1.11022E-8) satisfied.

Fit Statistics	
-2 Res Log Pseudo-Likelihood	19.89
Generalized Chi-Square	34.54
Gener. Chi-Square / DF	0.99

Covariance Parameter Estimates		
Cov Parm	Estimate	Standard Error
Rep	0.007507	0.01240
Scale	0.06448	0.01906

Type III Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
Treatment	4	28	66.30	<.0001

Treatment Least Squares Means					
Treatment	Estimate	Standard Error	DF	t Value	Pr >  t
NowBiolure	5.0281	0.09909	28	50.74	<.0001
Ppo	5.5647	0.09735	28	57.16	<.0001
PpoCombo	6.0993	0.09633	28	63.32	<.0001
StopNow	3.9593	0.1067	28	37.11	<.0001
StopNowCombo	5.3865	0.09783	28	55.06	<.0001

Differences of Treatment Least Squares Means Adjustment for Multiple Comparisons: Tukey-Kramer							
Treatment	_Treatment	Estimate	Standard Error	DF	t Value	Pr >  t	Adj P
NowBiolure	Ppo	-0.5366	0.1320	28	-4.07	0.0004	0.0030
NowBiolure	PpoCombo	-1.0712	0.1312	28	-8.16	<.0001	<.0001
NowBiolure	StopNow	1.0687	0.1390	28	7.69	<.0001	<.0001
NowBiolure	StopNowCombo	-0.3584	0.1323	28	-2.71	0.0114	0.0779
Ppo	PpoCombo	-0.5346	0.1299	28	-4.11	0.0003	0.0026
Ppo	StopNow	1.6054	0.1378	28	11.65	<.0001	<.0001
Ppo	StopNowCombo	0.1782	0.1310	28	1.36	0.1848	0.6574
PpoCombo	StopNow	2.1400	0.1371	28	15.61	<.0001	<.0001
PpoCombo	StopNowCombo	0.7128	0.1303	28	5.47	<.0001	<.0001
StopNow	StopNowCombo	-1.4272	0.1381	28	-10.33	<.0001	<.0001

Tukey-Kramer Grouping for Treatment Least Squares Means (Alpha=0.05)			
LS-means with the same letter are not significantly different.			
Treatment	Estimate		
PpoCombo	6.0993		A
Ppo	5.5647		B
			B
StopNowCombo	5.3865	C	B
		C	
NowBiolure	5.0281	C	
StopNow	3.9593		D



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Model Information	
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Response Distribution	Negative Binomial
Link Function	Log
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information		
Class	Levels	Values
Treatment	5	NowBiolure Ppo PpoCombo StopNow StopNowCombo
Rep	8	1 2 3 4 5 6 7 8

Number of Observations Read	40
Number of Observations Used	40

Dimensions	
G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	6
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Subjects (Blocks in V)	1
Max Obs per Subject	40

Optimization Information	
Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	2
Lower Boundaries	2
Upper Boundaries	0
Fixed Effects	Profiled
Starting From	Data

Iteration History					
Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	0	5	33.806367751	0.12447219	1.605E-6
1	0	4	33.008568648	0.04369375	0.00008
2	0	4	33.032326885	0.00111093	0.000011
3	0	2	33.034740159	0.00012861	2.125E-6
4	0	2	33.03450669	0.00001130	3.975E-6
5	0	2	33.034529313	0.00000124	0.000104
6	0	1	33.034527059	0.00000016	0.000057
7	1	1	33.034527356	0.00000000	0.000058
8	0	5	34.865490445	0.23302396	6.944E-6
9	0	6	31.92519674	0.24378882	0.00071
10	0	5	33.071669647	0.04356427	4.307E-8
11	0	3	33.032504439	0.00117848	3.93E-6
12	0	2	33.034698832	0.00005187	2.525E-6
13	0	3	33.034508206	0.00000548	0.000045
14	0	2	33.034528765	0.00000065	0.000039
15	0	1	33.034527266	0.00000091	0.000061
16	0	1	33.03452723	0.00000001	0.000058

Convergence criterion (PCONV=1.11022E-8) satisfied.

Fit Statistics	
-2 Res Log Pseudo-Likelihood	33.03
Generalized Chi-Square	32.31
Gener. Chi-Square / DF	0.92

Covariance Parameter Estimates		
Cov Parm	Estimate	Standard Error
Rep	0.04127	0.03103
Scale	0.05408	0.02121

Type III Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
Treatment	4	28	106.96	<.0001

Treatment Least Squares Means					
Treatment	Estimate	Standard Error	DF	t Value	Pr >  t
NowBiolure	1.5699	0.1943	28	8.08	<.0001
Ppo	4.4017	0.1160	28	37.93	<.0001
PpoCombo	5.1491	0.1125	28	45.78	<.0001
StopNow	3.1768	0.1310	28	24.26	<.0001
StopNowCombo	3.9436	0.1198	28	32.91	<.0001

Differences of Treatment Least Squares Means Adjustment for Multiple Comparisons: Tukey-Kramer							
Treatment	_Treatment	Estimate	Standard Error	DF	t Value	Pr >  t	Adj P
NowBiolure	Ppo	-2.8318	0.2022	28	-14.00	<.0001	<.0001
NowBiolure	PpoCombo	-3.5792	0.2002	28	-17.88	<.0001	<.0001
NowBiolure	StopNow	-1.6069	0.2111	28	-7.61	<.0001	<.0001
NowBiolure	StopNowCombo	-2.3737	0.2044	28	-11.61	<.0001	<.0001
Ppo	PpoCombo	-0.7474	0.1257	28	-5.95	<.0001	<.0001
Ppo	StopNow	1.2249	0.1425	28	8.60	<.0001	<.0001
Ppo	StopNowCombo	0.4581	0.1323	28	3.46	0.0017	0.0138
PpoCombo	StopNow	1.9723	0.1396	28	14.13	<.0001	<.0001
PpoCombo	StopNowCombo	1.2055	0.1292	28	9.33	<.0001	<.0001
StopNow	StopNowCombo	-0.7668	0.1455	28	-5.27	<.0001	0.0001

Tukey-Kramer Grouping for Treatment Least Squares Means (Alpha=0.05)		
LS-means with the same letter are not significantly different.		
Treatment	Estimate	
PpoCombo	5.1491	A
Ppo	4.4017	B
StopNowCombo	3.9436	C
StopNow	3.1768	D

NowBiolure	1.5699	E
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Optimization Information	
Optimization Technique	Dual Quasi-Newton
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Lower Boundaries	2
Upper Boundaries	0
Fixed Effects	Profiled
Starting From	Data

Iteration History					
Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	0	6	27.612268882	0.19813553	0.0053
1	0	5	25.348308709	0.07273452	0.000244
2	0	3	25.425041204	0.00230938	0.000032
3	1	1	25.425714902	0.00030669	0.000266
4	0	2	25.42618253	0.00003268	1.121E-6
5	1	1	25.42620283	0.00000390	0.000028
6	0	2	25.426207815	0.00000067	0.000027
7	0	1	25.426208612	0.00000015	5.519E-6
8	0	0	25.426208836	0.00000002	7.926E-6
9	0	0	25.426208795	0.00000000	7.498E-6

Convergence criterion (PCONV=1.11022E-8) satisfied.

Fit Statistics	
-2 Res Log Pseudo-Likelihood	25.43
Generalized Chi-Square	35.58
Gener. Chi-Square / DF	1.02

Covariance Parameter Estimates		
Cov Parm	Estimate	Standard Error
Rep	0.01125	0.01506
Scale	0.07057	0.02152

Type III Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
Treatment	4	28	28.95	<.0001

Treatment Least Squares Means					
Treatment	Estimate	Standard Error	DF	t Value	Pr >  t
NowBiolure	4.4007	0.1085	28	40.58	<.0001
Ppo	5.0463	0.1050	28	48.04	<.0001
PpoCombo	5.4603	0.1037	28	52.64	<.0001

StopNow	4.1382	0.1106	28	37.43	<.0001
StopNowCombo	5.0832	0.1049	28	48.46	<.0001

Differences of Treatment Least Squares Means Adjustment for Multiple Comparisons: Tukey-Kramer							
Treatment	_Treatment	Estimate	Standard Error	DF	t Value	Pr >  t	Adj P
NowBiolure	Ppo	-0.6456	0.1414	28	-4.57	<.0001	0.0008
NowBiolure	PpoCombo	-1.0596	0.1404	28	-7.55	<.0001	<.0001
NowBiolure	StopNow	0.2625	0.1455	28	1.80	0.0820	0.3912
NowBiolure	StopNowCombo	-0.6824	0.1413	28	-4.83	<.0001	0.0004
Ppo	PpoCombo	-0.4140	0.1378	28	-3.01	0.0055	0.0407
Ppo	StopNow	0.9081	0.1430	28	6.35	<.0001	<.0001
Ppo	StopNowCombo	-0.03687	0.1386	28	-0.27	0.7922	0.9988
PpoCombo	StopNow	1.3221	0.1420	28	9.31	<.0001	<.0001
PpoCombo	StopNowCombo	0.3771	0.1377	28	2.74	0.0106	0.0730
StopNow	StopNowCombo	-0.9450	0.1429	28	-6.61	<.0001	<.0001

Tukey-Kramer Grouping for Treatment Least Squares Means (Alpha=0.05)			
LS-means with the same letter are not significantly different.			
Treatment	Estimate		
PpoCombo	5.4603		A
			A
StopNowCombo	5.0832	B	A
		B	
Ppo	5.0463	B	
NowBiolure	4.4007		C
			C
StopNow	4.1382		C