

H.1. Cytotoxicity Test Statistical Analysis Output

Frequencies

		Statistics			
		Chemical	Cell type	Concentration	Experiment
N	Valid	648	648	648	648
	Missing	0	0	0	0

Frequency Table

		Chemical			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	EMS (ng/ml)	216	33,3	33,3	33,3
	MMA (mM)	216	33,3	33,3	66,7
	Form (µM)	216	33,3	33,3	100,0
	Total	648	100,0	100,0	

		Cell type			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	V-79	216	33,3	33,3	33,3
	HGF	216	33,3	33,3	66,7
	Wi-38	216	33,3	33,3	100,0
	Total	648	100,0	100,0	

Concentration

	Frequency	Percent	Valid Percent	Cumulative Percent
	0	162	25,0	25,0
	40	54	8,3	33,3
	80	54	8,3	41,7
	160	54	8,3	50,0
	400	54	8,3	58,3
Valid	600	54	8,3	66,7
	800	54	8,3	75,0
	1200	54	8,3	83,3
	1600	54	8,3	91,7
	2400	54	8,3	100,0
Total	648	100,0	100,0	

Experiment

	Frequency	Percent	Valid Percent	Cumulative Percent
	1	216	33,3	33,3
Valid	2	216	33,3	66,7
	3	216	33,3	100,0
Total	648	100,0	100,0	

Explore

Chemical = EMS (ng/ml), Cell type = V-79

Concentration

Case Processing Summary ^a							
	Concentration	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
	0	18	100,0%	0	0,0%	18	100,0%
Cell viability (%)	600	18	100,0%	0	0,0%	18	100,0%
	1200	18	100,0%	0	0,0%	18	100,0%
	2400	18	100,0%	0	0,0%	18	100,0%

a. Chemical = EMS (ng/ml), Cell type = V-79

Descriptives ^a				
	Concentration		Statistic	Std. Error
		Mean	100,7911	1,48133
		95% Confidence Interval for Mean		
		Lower Bound	97,6658	
		Upper Bound	103,9165	
		5% Trimmed Mean	100,9948	
		Median	101,7715	
		Variance	39,498	
	0	Std. Deviation	6,28477	
		Minimum	87,67	
		Maximum	110,25	
Cell viability (%)		Range	22,58	
		Interquartile Range	8,86	
		Skewness	-,666	,536
		Kurtosis	-,331	1,038
		Mean	86,0743	2,05629
		95% Confidence Interval for Mean		
		Lower Bound	81,7359	
		Upper Bound	90,4127	
	600	5% Trimmed Mean	85,8885	
		Median	86,4693	
		Variance	76,110	

	Std. Deviation		8,72411	
	Minimum		72,23	
	Maximum		103,26	
	Range		31,03	
	Interquartile Range		11,75	
	Skewness		,154	,536
	Kurtosis		-,515	1,038
	Mean		66,8924	1,97133
	95% Confidence Interval for Mean	Lower Bound	62,7333	
		Upper Bound	71,0515	
	5% Trimmed Mean		67,2244	
	Median		65,7100	
	Variance		69,950	
1200	Std. Deviation		8,36363	
	Minimum		48,75	
	Maximum		79,06	
	Range		30,30	
	Interquartile Range		15,75	
	Skewness		-,142	,536
	Kurtosis		-,302	1,038
	Mean		38,3805	3,48178
	95% Confidence Interval for Mean	Lower Bound	31,0345	
		Upper Bound	45,7264	
	5% Trimmed Mean		38,1049	
	Median		41,7370	
	Variance		218,211	
2400	Std. Deviation		14,77196	
	Minimum		18,43	
	Maximum		63,30	
	Range		44,87	
	Interquartile Range		25,35	
	Skewness		-,060	,536
	Kurtosis		-1,118	1,038

a. Chemical = EMS (ng/ml), Cell type = V-79

Chemical = EMS (ng/ml), Cell type = HGF

Concentration

Case Processing Summary ^a							
	Concentration	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
Cell viability (%)	0	18	100,0%	0	0,0%	18	100,0%
	600	12	66,7%	6	33,3%	18	100,0%
	1200	18	100,0%	0	0,0%	18	100,0%
	2400	18	100,0%	0	0,0%	18	100,0%

a. Chemical = EMS (ng/ml), Cell type = HGF

Descriptives ^a					
	Concentration		Statistic	Std. Error	
Cell viability (%)	0	Mean	100,5082	1,96136	
		95% Confidence Interval for	Lower Bound	96,3701	
		Mean	Upper Bound	104,6463	
		5% Trimmed Mean		100,0155	
		Median		99,5880	
		Variance		69,245	
		Std. Deviation		8,32133	
		Minimum		88,47	
		Maximum		121,42	
		Range		32,95	
		Interquartile Range		6,06	
		Skewness		1,475	,536
		Kurtosis		2,486	1,038
		Mean		95,6437	3,83723
600		95% Confidence Interval for	Lower Bound	87,1980	
		Mean	Upper Bound	104,0893	
		5% Trimmed Mean		95,3673	
		Median		90,1153	
		Variance		176,692	
		Std. Deviation		13,29255	
		Minimum		77,27	

	Maximum		119,00	
	Range		41,73	
	Interquartile Range		23,25	
	Skewness		,564	,637
	Kurtosis		-,890	1,232
	Mean		81,2235	1,81902
	95% Confidence Interval for	Lower Bound	77,3858	
	Mean	Upper Bound	85,0613	
	5% Trimmed Mean		81,2480	
	Median		83,0716	
	Variance		59,559	
1200	Std. Deviation		7,71743	
	Minimum		64,52	
	Maximum		97,49	
	Range		32,97	
	Interquartile Range		10,48	
	Skewness		-,096	,536
	Kurtosis		,469	1,038
	Mean		42,3806	1,70840
	95% Confidence Interval for	Lower Bound	38,7762	
	Mean	Upper Bound	45,9851	
	5% Trimmed Mean		41,8971	
	Median		40,3075	
	Variance		52,536	
2400	Std. Deviation		7,24814	
	Minimum		33,61	
	Maximum		59,86	
	Range		26,25	
	Interquartile Range		7,32	
	Skewness		1,449	,536
	Kurtosis		1,823	1,038

a. Chemical = EMS (ng/ml), Cell type = HGF

Chemical = EMS (ng/ml), Cell type = Wi-38

Concentration

Case Processing Summary^a

	Concentration	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
Cell viability (%)	0	18	100,0%	0	0,0%	18	100,0%
	600	18	100,0%	0	0,0%	18	100,0%
	1200	18	100,0%	0	0,0%	18	100,0%
	2400	18	100,0%	0	0,0%	18	100,0%

a. Chemical = EMS (ng/ml), Cell type = Wi-38

Descriptives^a

	Concentration	Statistic	Std. Error	
Cell viability (%)	0	Mean	106,2101	1,87627
	95% Confidence Interval for	Lower Bound	102,2515	
		Upper Bound	110,1687	
	5% Trimmed Mean	106,2526		
	Median	105,7510		
	Variance	63,367		
	Std. Deviation	7,96033		
	Minimum	90,79		
	Maximum	120,87		
	Range	30,08		
	Interquartile Range	8,56		
	Skewness	,027	,536	
	Kurtosis	,297	1,038	
600	Mean	95,0347	3,53171	
	95% Confidence Interval for	Lower Bound	87,5834	
		Upper Bound	102,4859	
	5% Trimmed Mean	92,7703		
	Median	92,0570		
	Variance	224,514		
	Std. Deviation	14,98379		
	Minimum	82,14		

	Maximum		148,68	
	Range		66,54	
	Interquartile Range		12,10	
	Skewness		2,909	,536
	Kurtosis		10,329	1,038
	Mean		84,3585	2,68381
	95% Confidence Interval for	Lower Bound	78,6962	
	Mean	Upper Bound	90,0208	
	5% Trimmed Mean		83,8796	
	Median		81,9444	
	Variance		129,651	
1200	Std. Deviation		11,38642	
	Minimum		65,38	
	Maximum		111,96	
	Range		46,58	
	Interquartile Range		11,77	
	Skewness		,924	,536
	Kurtosis		,894	1,038
	Mean		67,7395	3,82940
	95% Confidence Interval for	Lower Bound	59,6602	
	Mean	Upper Bound	75,8188	
	5% Trimmed Mean		67,9670	
	Median		72,7742	
	Variance		263,957	
2400	Std. Deviation		16,24675	
	Minimum		44,36	
	Maximum		87,02	
	Range		42,66	
	Interquartile Range		33,84	
	Skewness		-,442	,536
	Kurtosis		-1,508	1,038

a. Chemical = EMS (ng/ml), Cell type = Wi-38

Chemical = MMA (mM), Cell type = V-79

Concentration

Case Processing Summary ^a							
	Concentration	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
Cell viability (%)	0	18	100,0%	0	0,0%	18	100,0%
	40	18	100,0%	0	0,0%	18	100,0%
	80	18	100,0%	0	0,0%	18	100,0%
	160	18	100,0%	0	0,0%	18	100,0%

a. Chemical = MMA (mM), Cell type = V-79

Descriptives ^a					
	Concentration		Statistic	Std. Error	
Cell viability (%)	0	Mean	99,2469	1,33136	
		95% Confidence Interval for	Lower Bound	96,4380	
		Mean	Upper Bound	102,0558	
		5% Trimmed Mean		99,4197	
		Median		100,3745	
		Variance		31,905	
		Std. Deviation		5,64849	
		Minimum		88,67	
		Maximum		106,72	
		Range		18,05	
		Interquartile Range		9,55	
		Skewness		-,479	,536
		Kurtosis		-,972	1,038
40		Mean	98,0306	3,21032	
		95% Confidence Interval for	Lower Bound	91,2574	
		Mean	Upper Bound	104,8038	
		5% Trimmed Mean		97,9263	
		Median		97,2893	
		Variance		185,510	
		Std. Deviation		13,62022	
		Minimum		70,00	

	Maximum		127,94	
	Range		57,94	
	Interquartile Range		17,48	
	Skewness		,086	,536
	Kurtosis		,598	1,038
	Mean		81,9680	2,89062
	95% Confidence Interval for	Lower Bound	75,8694	
	Mean	Upper Bound	88,0667	
	5% Trimmed Mean		81,5657	
	Median		82,0034	
	Variance		150,402	
80	Std. Deviation		12,26384	
	Minimum		59,00	
	Maximum		112,18	
	Range		53,18	
	Interquartile Range		17,29	
	Skewness		,378	,536
	Kurtosis		1,127	1,038
	Mean		34,9186	3,84462
	95% Confidence Interval for	Lower Bound	26,8071	
	Mean	Upper Bound	43,0300	
	5% Trimmed Mean		35,1427	
	Median		40,7869	
	Variance		266,061	
160	Std. Deviation		16,31136	
	Minimum		12,14	
	Maximum		53,67	
	Range		41,53	
	Interquartile Range		34,67	
	Skewness		-,346	,536
	Kurtosis		-1,688	1,038

a. Chemical = MMA (mM), Cell type = V-79

Chemical = MMA (mM), Cell type = HGF

Concentration

Case Processing Summary^a

	Concentration	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
Cell viability (%)	0	18	100,0%	0	0,0%	18	100,0%
	40	18	100,0%	0	0,0%	18	100,0%
	80	18	100,0%	0	0,0%	18	100,0%
	160	18	100,0%	0	0,0%	18	100,0%

a. Chemical = MMA (mM), Cell type = HGF

Descriptives^a

	Concentration	Statistic	Std. Error	
Cell viability (%)	0	Mean	99,5683	1,84155
	95% Confidence Interval for	Lower Bound	95,6829	
		Upper Bound	103,4536	
	5% Trimmed Mean		99,4760	
	Median		99,0937	
	Variance		61,044	
	Std. Deviation		7,81304	
	Minimum		86,85	
	Maximum		113,94	
	Range		27,09	
	Interquartile Range		10,42	
	Skewness		,292	,536
	Kurtosis		-,511	1,038
40	Mean	84,4572	2,64055	
	95% Confidence Interval for	Lower Bound	78,8862	
		Upper Bound	90,0283	
	5% Trimmed Mean		84,6332	
	Median		85,1868	
	Variance		125,505	
	Std. Deviation		11,20290	
	Minimum		63,76	

	Maximum		101,99	
	Range		38,24	
	Interquartile Range		16,58	
	Skewness		-,251	,536
	Kurtosis		-,678	1,038
	Mean		81,9340	1,79807
	95% Confidence Interval for	Lower Bound	78,1404	
	Mean	Upper Bound	85,7276	
	5% Trimmed Mean		82,0738	
	Median		81,9341	
	Variance		58,195	
80	Std. Deviation		7,62856	
	Minimum		65,73	
	Maximum		95,62	
	Range		29,88	
	Interquartile Range		11,40	
	Skewness		-,168	,536
	Kurtosis		-,185	1,038
	Mean		39,6166	4,82686
	95% Confidence Interval for	Lower Bound	29,4328	
	Mean	Upper Bound	49,8004	
	5% Trimmed Mean		38,3286	
	Median		27,6297	
	Variance		419,375	
160	Std. Deviation		20,47865	
	Minimum		22,73	
	Maximum		79,68	
	Range		56,95	
	Interquartile Range		32,26	
	Skewness		1,007	,536
	Kurtosis		-,697	1,038

a. Chemical = MMA (mM), Cell type = HGF

Chemical = MMA (mM), Cell type = Wi-38

Concentration

Case Processing Summary^a

	Concentration	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
Cell viability (%)	0	18	100,0%	0	0,0%	18	100,0%
	40	18	100,0%	0	0,0%	18	100,0%
	80	18	100,0%	0	0,0%	18	100,0%
	160	18	100,0%	0	0,0%	18	100,0%

a. Chemical = MMA (mM), Cell type = Wi-38

Descriptives^a

	Concentration	Statistic	Std. Error	
Cell viability (%)	0	Mean	95,3207	2,25173
		95% Confidence Interval for Mean	Lower Bound	90,5700
			Upper Bound	100,0714
		5% Trimmed Mean	95,5222	
		Median	95,2926	
		Variance	91,265	
		Std. Deviation	9,55327	
		Minimum	77,35	
		Maximum	109,66	
		Range	32,31	
		Interquartile Range	13,94	
		Skewness	-,305	,536
		Kurtosis	-,475	1,038
Cell viability (%)	40	Mean	88,3981	2,70810
		95% Confidence Interval for Mean	Lower Bound	82,6845
			Upper Bound	94,1117
		5% Trimmed Mean	87,7482	
		Median	85,5337	
		Variance	132,009	
		Std. Deviation	11,48951	
		Minimum	69,32	

	Maximum		119,17	
	Range		49,85	
	Interquartile Range		8,68	
	Skewness		1,212	,536
	Kurtosis		2,196	1,038
	Mean		85,2846	3,10861
	95% Confidence Interval for	Lower Bound	78,7260	
	Mean	Upper Bound	91,8432	
	5% Trimmed Mean		84,3275	
	Median		81,5994	
	Variance		173,942	
80	Std. Deviation		13,18870	
	Minimum		67,68	
	Maximum		120,11	
	Range		52,43	
	Interquartile Range		10,86	
	Skewness		1,389	,536
	Kurtosis		2,028	1,038
	Mean		47,7863	3,53609
	95% Confidence Interval for	Lower Bound	40,3258	
	Mean	Upper Bound	55,2468	
	5% Trimmed Mean		46,8746	
	Median		39,8219	
	Variance		225,070	
160	Std. Deviation		15,00234	
	Minimum		34,35	
	Maximum		77,63	
	Range		43,28	
	Interquartile Range		25,08	
	Skewness		,994	,536
	Kurtosis		-,639	1,038

a. Chemical = MMA (mM), Cell type = Wi-38

Chemical = Form (μM), Cell type = V-79

Concentration

Case Processing Summary^a

	Concentration	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
Cell viability (%)	0	18	100,0%	0	0,0%	18	100,0%
	400	18	100,0%	0	0,0%	18	100,0%
	800	18	100,0%	0	0,0%	18	100,0%
	1600	18	100,0%	0	0,0%	18	100,0%

a. Chemical = Form (μM), Cell type = V-79

Descriptives^a

	Concentration	Statistic	Std. Error	
Cell viability (%)	Mean	100,0150	2,80270	
	95% Confidence Interval for Mean	Lower Bound	94,1018	
		Upper Bound	105,9281	
	5% Trimmed Mean		100,3686	
	Median		101,5355	
	Variance		141,392	
	Std. Deviation		11,89084	
	Minimum		72,61	
	Maximum		121,05	
	Range		48,44	
	Interquartile Range		13,69	
	Skewness		-,763	,536
	Kurtosis		,989	1,038
	400	Mean	38,5509	3,02603
95% Confidence Interval for Mean		Lower Bound	32,1666	
		Upper Bound	44,9353	
5% Trimmed Mean			38,0591	
Median			33,7859	
Variance			164,823	
Std. Deviation			12,83835	
Minimum			25,87	

	Maximum		60,09	
	Range		34,22	
	Interquartile Range		25,83	
	Skewness		,751	,536
	Kurtosis		-1,127	1,038
	Mean		33,6602	1,23386
	95% Confidence Interval for	Lower Bound	31,0570	
	Mean	Upper Bound	36,2634	
	5% Trimmed Mean		33,3381	
	Median		32,8408	
	Variance		27,403	
800	Std. Deviation		5,23481	
	Minimum		26,63	
	Maximum		46,49	
	Range		19,86	
	Interquartile Range		6,93	
	Skewness		,959	,536
	Kurtosis		,810	1,038
	Mean		28,9186	1,60690
	95% Confidence Interval for	Lower Bound	25,5284	
	Mean	Upper Bound	32,3089	
	5% Trimmed Mean		28,9151	
	Median		27,7935	
	Variance		46,478	
1600	Std. Deviation		6,81751	
	Minimum		18,43	
	Maximum		39,47	
	Range		21,05	
	Interquartile Range		14,12	
	Skewness		,198	,536
	Kurtosis		-1,346	1,038

a. Chemical = Form (μM), Cell type = V-79

Chemical = Form (μM), Cell type = HGF

Concentration

Case Processing Summary^a

	Concentration	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
Cell viability (%)	0	18	100,0%	0	0,0%	18	100,0%
	400	18	100,0%	0	0,0%	18	100,0%
	800	18	100,0%	0	0,0%	18	100,0%
	1600	18	100,0%	0	0,0%	18	100,0%

a. Chemical = Form (μM), Cell type = HGF

Descriptives^a

	Concentration	Statistic	Std. Error	
Cell viability (%)	0	Mean	99,9718	1,99719
	95% Confidence Interval for	Lower Bound	95,7581	
		Upper Bound	104,1855	
	5% Trimmed Mean	99,4074		
	Median	99,5722		
	Variance	71,798		
	Std. Deviation	8,47336		
	Minimum	88,28		
	Maximum	121,83		
	Range	33,55		
	Interquartile Range	8,95		
	Skewness	,741	,536	
	Kurtosis	1,349	1,038	
400	400	Mean	57,7154	2,18897
	95% Confidence Interval for	Lower Bound	53,0971	
		Upper Bound	62,3338	
	5% Trimmed Mean	57,9053		
	Median	54,5685		
	Variance	86,249		
	Std. Deviation	9,28702		
	Minimum	39,26		

	Maximum		72,76	
	Range		33,50	
	Interquartile Range		15,46	
	Skewness		,136	,536
	Kurtosis		-,602	1,038
	Mean		52,6321	2,16721
	95% Confidence Interval for	Lower Bound	48,0597	
	Mean	Upper Bound	57,2045	
	5% Trimmed Mean		52,1582	
	Median		48,5146	
	Variance		84,542	
800	Std. Deviation		9,19467	
	Minimum		43,45	
	Maximum		70,34	
	Range		26,90	
	Interquartile Range		15,17	
	Skewness		,753	,536
	Kurtosis		-1,001	1,038
	Mean		42,1891	3,80263
	95% Confidence Interval for	Lower Bound	34,1663	
	Mean	Upper Bound	50,2120	
	5% Trimmed Mean		40,9485	
	Median		31,3411	
	Variance		260,280	
1600	Std. Deviation		16,13320	
	Minimum		28,09	
	Maximum		78,62	
	Range		50,53	
	Interquartile Range		23,12	
	Skewness		1,081	,536
	Kurtosis		,039	1,038

a. Chemical = Form (μM), Cell type = HGF

Chemical = Form (μM), Cell type = Wi-38

Concentration

Case Processing Summary^a

	Concentration	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
Cell viability (%)	0	18	100,0%	0	0,0%	18	100,0%
	400	18	100,0%	0	0,0%	18	100,0%
	800	18	100,0%	0	0,0%	18	100,0%
	1600	18	100,0%	0	0,0%	18	100,0%

a. Chemical = Form (μM), Cell type = Wi-38

Descriptives^a

	Concentration	Statistic	Std. Error		
Cell viability (%)	0	Mean	101,7587	2,57466	
		95% Confidence Interval for Mean	Lower Bound	96,3267	
			Upper Bound	107,1908	
		5% Trimmed Mean		101,4620	
		Median		99,9135	
		Variance		119,319	
		Std. Deviation		10,92334	
		Minimum		80,51	
		Maximum		128,35	
		Range		47,83	
		Interquartile Range		14,54	
		Skewness		,422	,536
		Kurtosis		1,066	1,038
400		Mean	67,4158	2,36183	
		95% Confidence Interval for Mean	Lower Bound	62,4328	
			Upper Bound	72,3989	
		5% Trimmed Mean		66,9150	
		Median		65,1557	
		Variance		100,408	
		Std. Deviation		10,02038	
		Minimum		54,28	

	Maximum		89,57	
	Range		35,29	
	Interquartile Range		16,96	
	Skewness		,687	,536
	Kurtosis		-,264	1,038
	Mean		64,0670	2,57446
	95% Confidence Interval for	Lower Bound	58,6353	
	Mean	Upper Bound	69,4986	
	5% Trimmed Mean		64,0599	
	Median		64,1125	
	Variance		119,301	
800	Std. Deviation		10,92251	
	Minimum		46,76	
	Maximum		81,50	
	Range		34,73	
	Interquartile Range		18,89	
	Skewness		-,066	,536
	Kurtosis		-,982	1,038
	Mean		48,5428	2,69490
	95% Confidence Interval for	Lower Bound	42,8571	
	Mean	Upper Bound	54,2286	
	5% Trimmed Mean		48,4983	
	Median		46,1175	
	Variance		130,724	
1600	Std. Deviation		11,43347	
	Minimum		31,94	
	Maximum		65,94	
	Range		34,00	
	Interquartile Range		20,98	
	Skewness		,237	,536
	Kurtosis		-1,328	1,038

a. Chemical = Form (μM), Cell type = Wi-38

Reliability

Scale: ALL VARIABLES

Case Processing Summary			
		N	%
	Valid	210	97,2
Cases	Excluded ^a	6	2,8
Total		216	100,0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,844	,840	3

Inter-Item Correlation Matrix			
	1 ^a CellViability (%)	2 ^a CellViability (%)	3 ^a CellViability (%)
1 ^a CellViability (%)	1,000	,525	,480
2 ^a CellViability (%)	,525	1,000	,904
3 ^a CellViability (%)	,480	,904	1,000

Univariate Analysis of Variance EMS

Between-Subjects Factors		
	Value Label	N
Concentration	0	54
	600	48
	1200	54
	2400	54
Cell type	1 V-79	72
	2 HGF	66
	3 Wi-38	72

Descriptive Statistics				
Dependent Variable: Cell viability (%)				
Concentration	Cell type	Mean	Std. Deviation	N
0	V-79	100,7911	6,28477	18
	HGF	100,5082	8,32133	18
	Wi-38	106,2101	7,96033	18
	Total	102,5031	7,88790	54
600	V-79	86,0743	8,72411	18
	HGF	95,6437	13,29255	12
	Wi-38	95,0347	14,98379	18
	Total	91,8268	13,05464	48
1200	V-79	66,8924	8,36363	18
	HGF	81,2235	7,71743	18
	Wi-38	84,3585	11,38642	18
	Total	77,4915	11,91745	54
2400	V-79	38,3805	14,77196	18
	HGF	42,3806	7,24814	18
	Wi-38	67,7395	16,24675	18
	Total	49,5002	18,53915	54
Total	V-79	73,0346	25,47790	72
	HGF	78,5113	25,08084	66
	Wi-38	88,3357	19,15994	72
	Total	80,0019	24,12910	210

Levene's Test of Equality of Error Variances^a

Dependent Variable: Cell viability (%)

F	df1	df2	Sig.
3,694	11	198	,000

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Concentration + Celltype + Concentration * Celltype

Tests of Between-Subjects Effects

Dependent Variable: Cell viability (%)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Noncent. Parameter	Observed Power ^b
Corrected Model	98206,812 ^a	11	8927,892	75,300	,000	828,299	1,000
Intercept	1341622,857	1	1341622,857	11315,560	,000	11315,560	1,000
Concentration	84864,435	3	28288,145	238,589	,000	715,766	1,000
Celltype	8453,138	2	4226,569	35,648	,000	71,296	1,000
Concentration * Celltype	5088,777	6	848,129	7,153	,000	42,920	,997
Error	23475,755	198	118,564				
Total	1465747,319	210					
Corrected Total	121682,567	209					

a. R Squared = ,807 (Adjusted R Squared = ,796)

b. Computed using alpha = ,01

Parameter Estimates

Dependent Variable: Cell viability (%)

Parameter	B	Std. Error	t	Sig.	99% Confidence Interval		Noncent. Parameter	Observed Power ^b
					Lower	Upper		
					Bound	Bound		
Intercept	67,739	2,566	26,394	,000	61,064	74,415	26,394	1,000
[Concentration=0]	38,471	3,630	10,599	,000	29,030	47,911	10,599	1,000
[Concentration=600]	27,295	3,630	7,520	,000	17,855	36,735	7,520	1,000
[Concentration=1200]	16,619	3,630	4,579	,000	7,179	26,059	4,579	,975
[Concentration=2400]	0 ^a	.	.	.	.	.	.	.
[Celltype=1]	-29,359	3,630	-8,089	,000	-38,799	-19,919	8,089	1,000
[Celltype=2]	-25,359	3,630	-6,987	,000	-34,799	-15,919	6,987	1,000
[Celltype=3]	0 ^a	.	.	.	.	.	.	.
[Concentration=0] *	23,940	5,133	4,664	,000	10,590	37,290	4,664	,980
[Celltype=1]								
[Concentration=0] *	19,657	5,133	3,830	,000	6,307	33,007	3,830	,889
[Celltype=2]								
[Concentration=0] *	0 ^a	.	.	.	.	.	.	.
[Celltype=3]								
[Concentration=600] *	20,399	5,133	3,974	,000	7,048	33,749	3,974	,914
[Celltype=1]								
[Concentration=600] *	25,968	5,444	4,770	,000	11,808	40,128	4,770	,984
[Celltype=2]								
[Concentration=600] *	0 ^a	.	.	.	.	.	.	.
[Celltype=3]								
[Concentration=1200] *	11,893	5,133	2,317	,022	-1,457	25,243	2,317	,390
[Celltype=1]								
[Concentration=1200] *	22,224	5,133	4,330	,000	8,874	35,574	4,330	,957
[Celltype=2]								
[Concentration=1200] *	0 ^a	.	.	.	.	.	.	.
[Celltype=3]								
[Concentration=2400] *	0 ^a	.	.	.	.	.	.	.
[Celltype=1]								
[Concentration=2400] *	0 ^a	.	.	.	.	.	.	.
[Celltype=2]								
[Concentration=2400] *	0 ^a	.	.	.	.	.	.	.
[Celltype=3]								

a. This parameter is set to zero because it is redundant.

b. Computed using alpha = ,01

Estimated Marginal Means

Concentration * Cell type					
Dependent Variable: Cell viability (%)					
Concentration	Cell type	Mean	Std. Error	99% Confidence Interval	
				Lower Bound	Upper Bound
0	V-79	100,791	2,566	94,116	107,466
	HGF	100,508	2,566	93,833	107,183
	Wi-38	106,210	2,566	99,535	112,885
600	V-79	86,074	2,566	79,399	92,749
	HGF	95,644	3,143	87,468	103,819
	Wi-38	95,035	2,566	88,359	101,710
1200	V-79	66,892	2,566	60,217	73,568
	HGF	81,224	2,566	74,548	87,899
	Wi-38	84,359	2,566	77,683	91,034
2400	V-79	38,380	2,566	31,705	45,056
	HGF	42,381	2,566	35,705	49,056
	Wi-38	67,739	2,566	61,064	74,415

Post Hoc Tests

Concentration

Multiple Comparisons						
Dependent Variable: Cell viability (%)						
Dunnett t (<control)						
(I) Concentration	(J) Concentration	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
					Upper Bound	
600	0	-10,6763 [*]	2,16003	,000	-4,8161	
1200	0	-25,0116 [*]	2,09554	,000	-19,3263	
2400	0	-53,0029 [*]	2,09554	,000	-47,3176	

Based on observed means.

The error term is Mean Square(Error) = 118,564.

*. The mean difference is significant at the ,01 level.

a. Dunnett t-tests treat one group as a control, and compare all other groups against it.

Homogeneous Subsets

Cell type

Multiple Comparisons

Dependent Variable: Cell viability (%)

Dunnett t (<control)

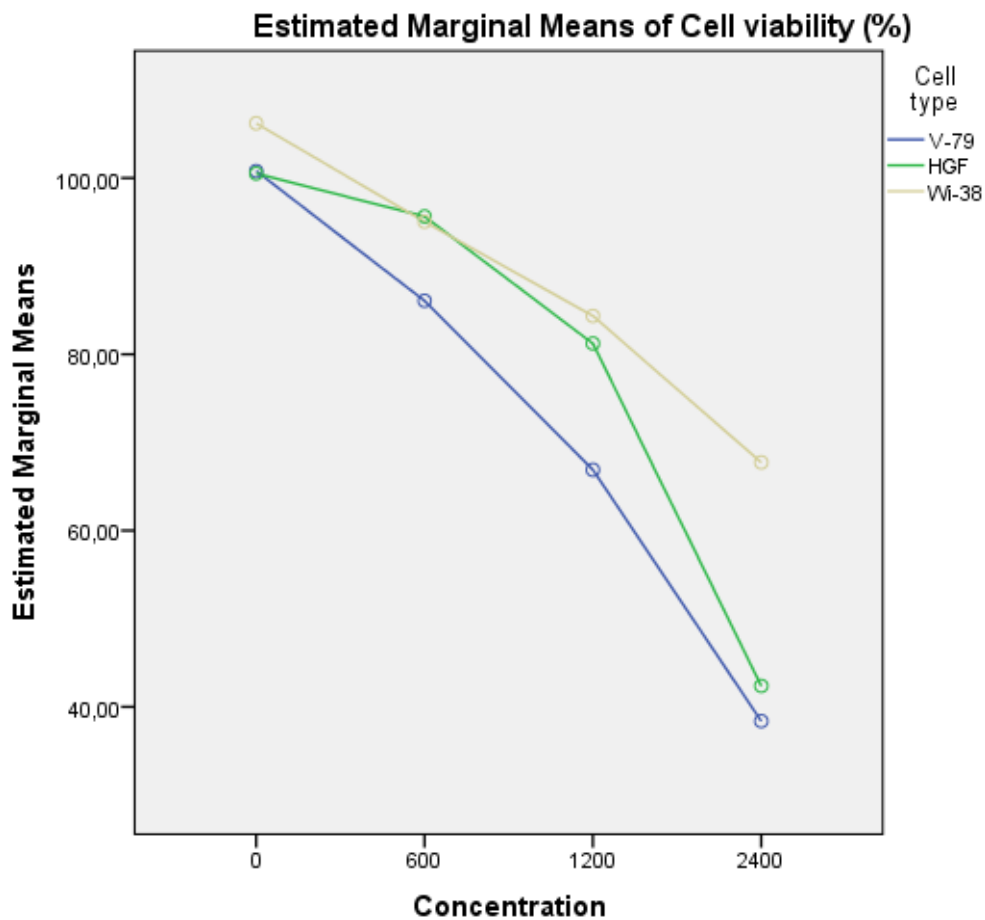
(I) Cell type	(J) Cell type	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval Upper Bound
HGF	V-79	5,4767	1,85558	1,000	10,2690
Wi-38	V-79	15,3011	1,81479	1,000	19,9880

Based on observed means.

The error term is Mean Square(Error) = 118,564.

a. Dunnett t-tests treat one group as a control, and compare all other groups against it.

Profile Plots



NPar Tests

Concentration = 0, Cell type = V-79

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	6,28477
	Absolute	,156
Most Extreme Differences	Positive	,123
	Negative	-,156
Kolmogorov-Smirnov Z		,664
Asymp. Sig. (2-tailed)		,770

a. Concentration = 0, Cell type = V-79

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 0, Cell type = HGF

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	8,32133
	Absolute	,247
Most Extreme Differences	Positive	,247
	Negative	-,103
Kolmogorov-Smirnov Z		1,047
Asymp. Sig. (2-tailed)		,223

a. Concentration = 0, Cell type = HGF

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 0, Cell type = Wi-38

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	7,96033
	Absolute	,168
Most Extreme Differences	Positive	,168
	Negative	-,142
Kolmogorov-Smirnov Z		,713
Asymp. Sig. (2-tailed)		,690

a. Concentration = 0, Cell type = Wi-38

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 600, Cell type = V-79

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	8,72411
	Absolute	,108
Most Extreme Differences	Positive	,108
	Negative	-,081
Kolmogorov-Smirnov Z		,460
Asymp. Sig. (2-tailed)		,984

a. Concentration = 600, Cell type = V-79

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 600, Cell type = HGF

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		12
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	13,29255
	Absolute	,217
Most Extreme Differences	Positive	,217
	Negative	-,122
Kolmogorov-Smirnov Z		,752
Asymp. Sig. (2-tailed)		,624

a. Concentration = 600, Cell type = HGF

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 600, Cell type = Wi-38

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	14,98379
	Absolute	,229
Most Extreme Differences	Positive	,229
	Negative	-,195
Kolmogorov-Smirnov Z		,973
Asymp. Sig. (2-tailed)		,300

a. Concentration = 600, Cell type = Wi-38

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 1200, Cell type = V-79

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	8,36363
	Absolute	,153
Most Extreme Differences	Positive	,110
	Negative	-,153
Kolmogorov-Smirnov Z		,650
Asymp. Sig. (2-tailed)		,793

a. Concentration = 1200, Cell type = V-79

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 1200, Cell type = HGF

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	7,71743
	Absolute	,146
Most Extreme Differences	Positive	,092
	Negative	-,146
Kolmogorov-Smirnov Z		,620
Asymp. Sig. (2-tailed)		,837

a. Concentration = 1200, Cell type = HGF

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 1200, Cell type = Wi-38

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	11,38642
	Absolute	,165
Most Extreme Differences	Positive	,165
	Negative	-,110
Kolmogorov-Smirnov Z		,698
Asymp. Sig. (2-tailed)		,714

a. Concentration = 1200, Cell type = Wi-38

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 2400, Cell type = V-79

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	14,77196
	Absolute	,184
Most Extreme Differences	Positive	,175
	Negative	-,184
Kolmogorov-Smirnov Z		,779
Asymp. Sig. (2-tailed)		,578

a. Concentration = 2400, Cell type = V-79

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 2400, Cell type = HGF

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	7,24814
	Absolute	,177
Most Extreme Differences	Positive	,177
	Negative	-,116
Kolmogorov-Smirnov Z		,750
Asymp. Sig. (2-tailed)		,628

a. Concentration = 2400, Cell type = HGF

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 2400, Cell type = Wi-38

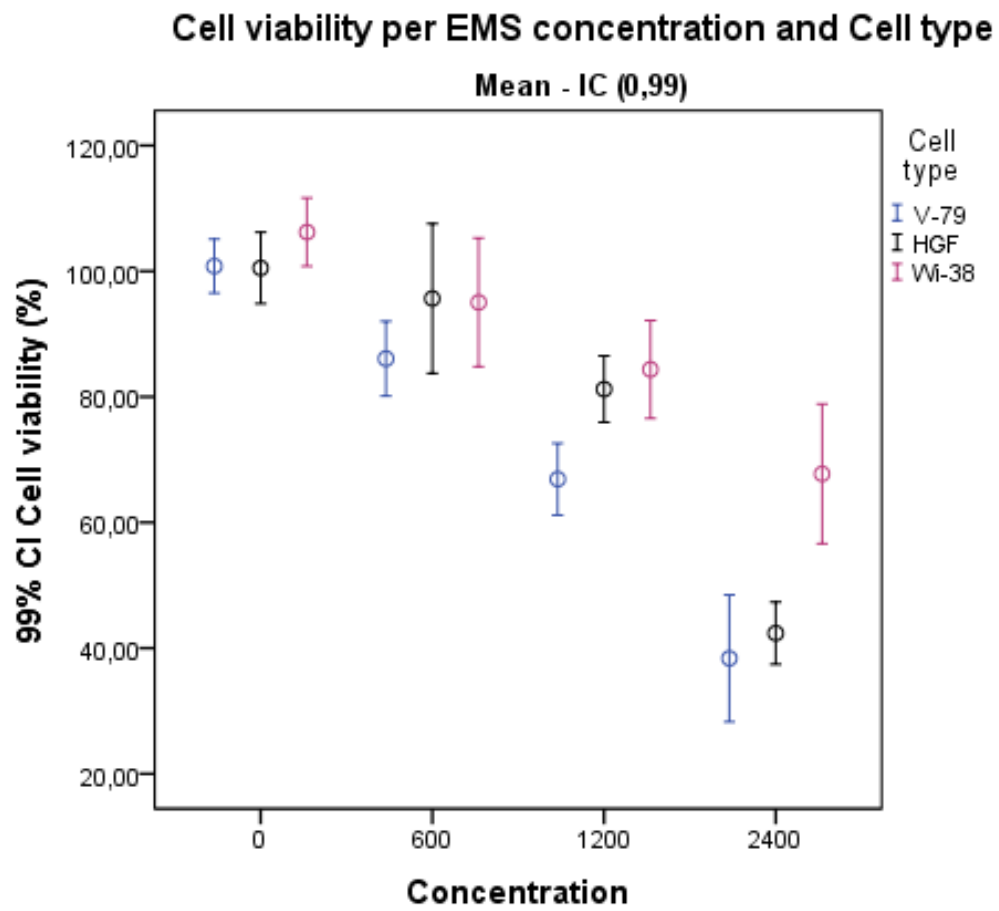
One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	16,24675
	Absolute	,228
Most Extreme Differences	Positive	,215
	Negative	-,228
Kolmogorov-Smirnov Z		,965
Asymp. Sig. (2-tailed)		,309

a. Concentration = 2400, Cell type = Wi-38

b. Test distribution is Normal.

c. Calculated from data.

Graph



Univariate Analysis of Variance MMA

Between-Subjects Factors

	Value Label	N
Concentration	0	54
	40	54
	80	54
	160	54
Cell type	1 V-79	72
	2 HGF	72
	3 Wi-38	72

Descriptive Statistics

Dependent Variable: Cell viability (%)

Concentration	Cell type	Mean	Std. Deviation	N
0	V-79	99,2469	5,64849	18
	HGF	99,5683	7,81304	18
	Wi-38	95,3207	9,55327	18
	Total	98,0453	7,93012	54
40	V-79	98,0306	13,62022	18
	HGF	84,4572	11,20290	18
	Wi-38	88,3981	11,48951	18
	Total	90,2953	13,23711	54
80	V-79	81,9680	12,26384	18
	HGF	81,9340	7,62856	18
	Wi-38	85,2846	13,18870	18
	Total	83,0622	11,19006	54
160	V-79	34,9186	16,31136	18
	HGF	39,6166	20,47865	18
	Wi-38	47,7863	15,00234	18
	Total	40,7738	17,91224	54
Total	V-79	78,5410	29,02020	72
	HGF	76,3940	25,73593	72
	Wi-38	79,1974	22,26874	72
	Total	78,0442	25,73013	216

Levene's Test of Equality of Error Variances^a

Dependent Variable: Cell viability (%)

F	df1	df2	Sig.
5,532	11	204	,000

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Concentration + Celltype + Concentration * Celltype

Tests of Between-Subjects Effects

Dependent Variable: Cell viability (%)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Noncent. Parameter	Observed Power ^b
Corrected Model	109693,709 ^a	11	9972,155	62,317	,000	685,485	1,000
Intercept	1315632,271	1	1315632,271	8221,494	,000	8221,494	1,000
Concentration	106077,307	3	35359,102	220,962	,000	662,886	1,000
Celltype	309,591	2	154,796	,967	,382	1,935	,079
Concentration * Celltype	3306,811	6	551,135	3,444	,003	20,665	,827
Error	32644,795	204	160,024				
Total	1457970,775	216					
Corrected Total	142338,504	215					

a. R Squared = ,771 (Adjusted R Squared = ,758)

b. Computed using alpha = ,01

Parameter Estimates

Dependent Variable: Cell viability (%)

Parameter	B	Std. Error	t	Sig.	99% Confidence Interval		Noncent. Parameter	Observed Power ^b
					Lower	Upper		
					Bound	Bound		
Intercept	47,786	2,982	16,027	,000	40,034	55,539	16,027	1,000
[Concentration=0]	47,534	4,217	11,273	,000	36,570	58,498	11,273	1,000
[Concentration=40]	40,612	4,217	9,631	,000	29,648	51,576	9,631	1,000
[Concentration=80]	37,498	4,217	8,893	,000	26,534	48,462	8,893	1,000
[Concentration=160]	0 ^a	.	.	.	.	.	.	.
[Celltype=1]	-12,868	4,217	-3,052	,003	-23,832	-1,904	3,052	,674
[Celltype=2]	-8,170	4,217	-1,937	,054	-19,134	2,794	1,937	,257
[Celltype=3]	0 ^a	.	.	.	.	.	.	.
[Concentration=0] *	16,794	5,963	2,816	,005	1,289	32,299	2,816	,586
[Celltype=1]	12,417	5,963	2,082	,039	-3,088	27,923	2,082	,305
[Concentration=0] *	0 ^a	.	.	.	.	.	.	.
[Celltype=3]	22,500	5,963	3,773	,000	6,995	38,006	3,773	,878
[Concentration=40] *	4,229	5,963	,709	,479	-11,276	19,734	,709	,031
[Celltype=2]	0 ^a	.	.	.	.	.	.	.
[Concentration=40] *	9,551	5,963	1,602	,111	-5,954	25,057	1,602	,162
[Celltype=1]	4,819	5,963	,808	,420	-10,686	20,324	,808	,038
[Concentration=80] *	0 ^a	.	.	.	.	.	.	.
[Celltype=3]	0 ^a	.	.	.	.	.	.	.
[Concentration=160] *	0 ^a	.	.	.	.	.	.	.
[Celltype=1]	0 ^a	.	.	.	.	.	.	.
[Concentration=160] *	0 ^a	.	.	.	.	.	.	.
[Celltype=2]	0 ^a	.	.	.	.	.	.	.
[Concentration=160] *	0 ^a	.	.	.	.	.	.	.
[Celltype=3]								

a. This parameter is set to zero because it is redundant.

b. Computed using alpha = ,01

Estimated Marginal Means

Concentration * Cell type					
Dependent Variable: Cell viability (%)					
Concentration	Cell type	Mean	Std. Error	99% Confidence Interval	
				Lower Bound	Upper Bound
0	V-79	99,247	2,982	91,494	107,000
	HGF	99,568	2,982	91,816	107,321
	Wi-38	95,321	2,982	87,568	103,073
40	V-79	98,031	2,982	90,278	105,783
	HGF	84,457	2,982	76,705	92,210
	Wi-38	88,398	2,982	80,645	96,151
80	V-79	81,968	2,982	74,215	89,721
	HGF	81,934	2,982	74,181	89,687
	Wi-38	85,285	2,982	77,532	93,037
160	V-79	34,919	2,982	27,166	42,671
	HGF	39,617	2,982	31,864	47,369
	Wi-38	47,786	2,982	40,034	55,539

Post Hoc Tests

Concentration

Multiple Comparisons					
Dependent Variable: Cell viability (%)					
Dunnett t (<control)					
(I) Concentration	(J) Concentration	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval Upper Bound
40	0	-7,7500*	2,43450	,002	-1,1503
80	0	-14,9831*	2,43450	,000	-8,3834
160	0	-57,2715*	2,43450	,000	-50,6718

Based on observed means.

The error term is Mean Square(Error) = 160,024.

*. The mean difference is significant at the ,01 level.

a. Dunnett t-tests treat one group as a control, and compare all other groups against it.

Homogeneous Subsets

Cell type

Multiple Comparisons

Dependent Variable: Cell viability (%)

Dunnett t (<control)

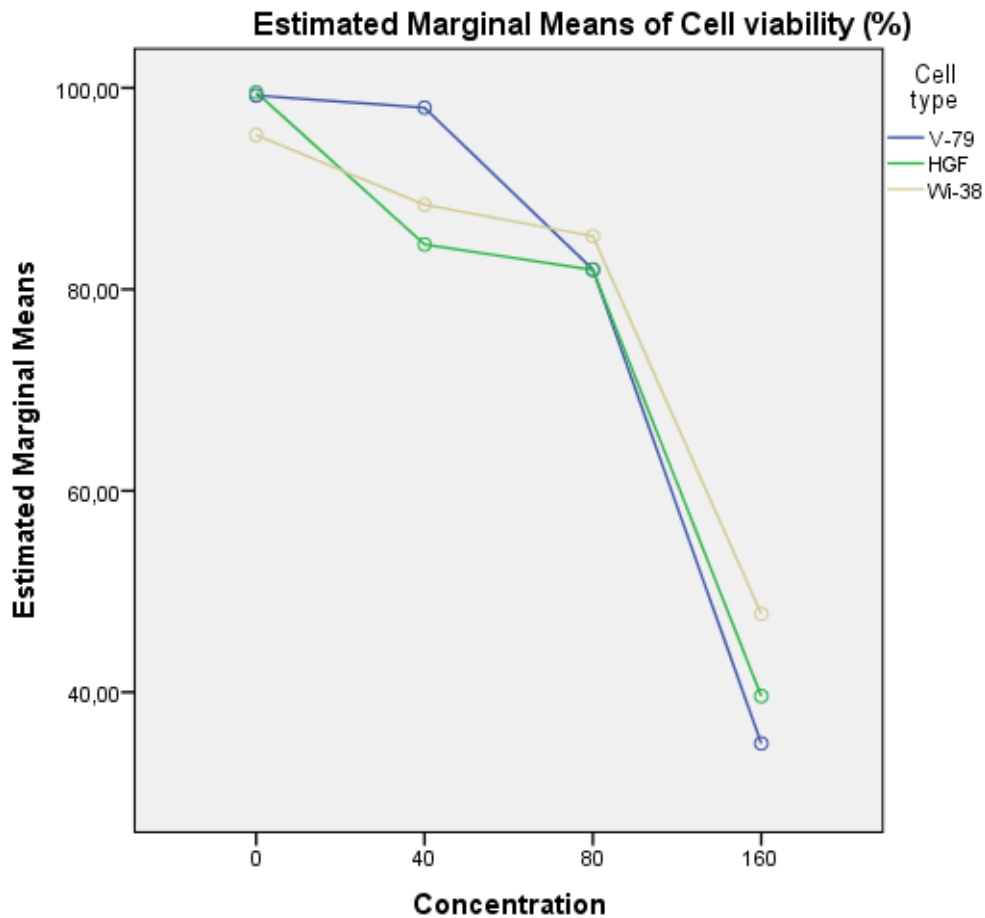
(I) Cell type	(J) Cell type	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval Upper Bound
HGF	V-79	-2,1470	2,10834	,249	3,2946
Wi-38	V-79	,6564	2,10834	,780	6,0980

Based on observed means.

The error term is Mean Square(Error) = 160,024.

a. Dunnett t-tests treat one group as a control, and compare all other groups against it.

Profile Plots



NPar Tests

Concentration = 0, Cell type = V-79

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	5,64849
	Absolute	,126
Most Extreme Differences	Positive	,099
	Negative	-,126
Kolmogorov-Smirnov Z		,533
Asymp. Sig. (2-tailed)		,939

a. Concentration = 0, Cell type = V-79

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 0, Cell type = HGF

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	7,81304
	Absolute	,111
Most Extreme Differences	Positive	,111
	Negative	-,103
Kolmogorov-Smirnov Z		,472
Asymp. Sig. (2-tailed)		,979

a. Concentration = 0, Cell type = HGF

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 0, Cell type = Wi-38

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	9,55327
	Absolute	,091
Most Extreme Differences	Positive	,075
	Negative	-,091
Kolmogorov-Smirnov Z		,386
Asymp. Sig. (2-tailed)		,998

a. Concentration = 0, Cell type = Wi-38

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 40, Cell type = V-79

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	13,62022
	Absolute	,091
Most Extreme Differences	Positive	,091
	Negative	-,083
Kolmogorov-Smirnov Z		,384
Asymp. Sig. (2-tailed)		,998

a. Concentration = 40, Cell type = V-79

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 40, Cell type = HGF

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	11,20290
	Absolute	,133
Most Extreme Differences	Positive	,089
	Negative	-,133
Kolmogorov-Smirnov Z		,565
Asymp. Sig. (2-tailed)		,907

a. Concentration = 40, Cell type = HGF

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 40, Cell type = Wi-38

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	11,48951
	Absolute	,211
Most Extreme Differences	Positive	,211
	Negative	-,139
Kolmogorov-Smirnov Z		,895
Asymp. Sig. (2-tailed)		,399

a. Concentration = 40, Cell type = Wi-38

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 80, Cell type = V-79

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	12,26384
	Absolute	,137
Most Extreme Differences	Positive	,137
	Negative	-,101
Kolmogorov-Smirnov Z		,581
Asymp. Sig. (2-tailed)		,889

a. Concentration = 80, Cell type = V-79

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 80, Cell type = HGF

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	7,62856
	Absolute	,117
Most Extreme Differences	Positive	,089
	Negative	-,117
Kolmogorov-Smirnov Z		,495
Asymp. Sig. (2-tailed)		,967

a. Concentration = 80, Cell type = HGF

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 80, Cell type = Wi-38

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	13,18870
	Absolute	,214
Most Extreme Differences	Positive	,214
	Negative	-,091
Kolmogorov-Smirnov Z		,909
Asymp. Sig. (2-tailed)		,381

a. Concentration = 80, Cell type = Wi-38

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 160, Cell type = V-79

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	16,31136
	Absolute	,209
Most Extreme Differences	Positive	,209
	Negative	-,194
Kolmogorov-Smirnov Z		,887
Asymp. Sig. (2-tailed)		,411

a. Concentration = 160, Cell type = V-79

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 160, Cell type = HGF

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	20,47865
	Absolute	,355
Most Extreme Differences	Positive	,355
	Negative	-,205
Kolmogorov-Smirnov Z		1,508
Asymp. Sig. (2-tailed)		,021

a. Concentration = 160, Cell type = HGF

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 160, Cell type = Wi-38

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	15,00234
	Absolute	,300
Most Extreme Differences	Positive	,300
	Negative	-,185
Kolmogorov-Smirnov Z		1,275
Asymp. Sig. (2-tailed)		,078

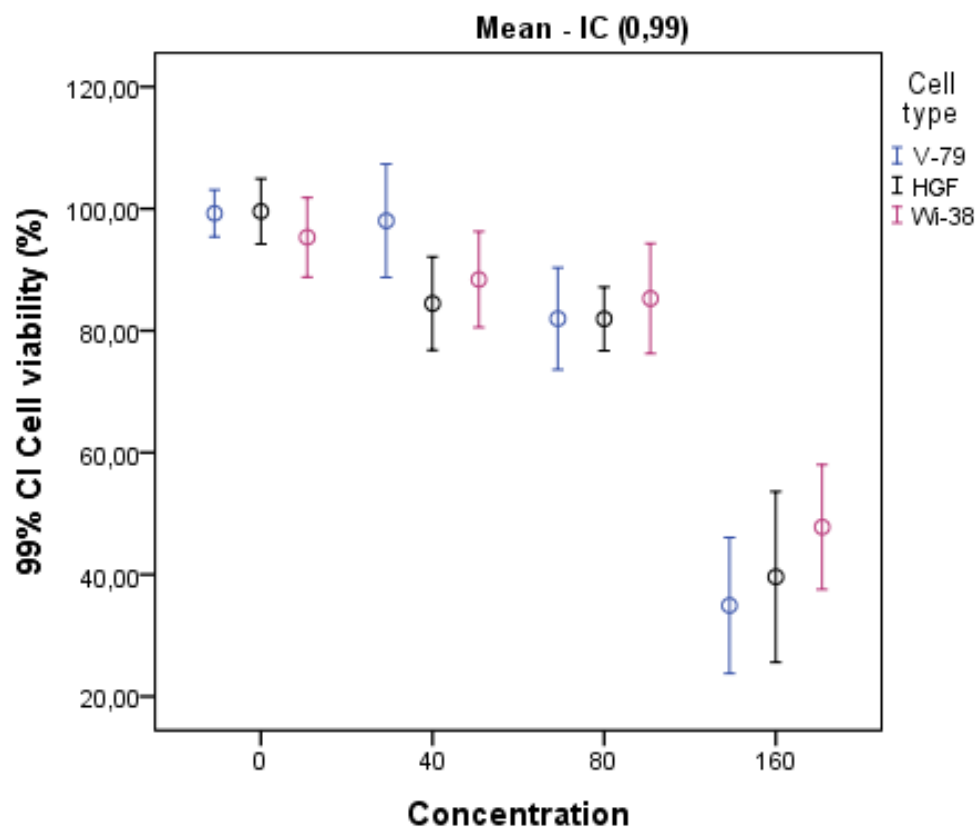
a. Concentration = 160, Cell type = Wi-38

b. Test distribution is Normal.

c. Calculated from data.

Graph

Cell viability per MMA concentration and Cell type



Univariate Analysis of Variance Form

Between-Subjects Factors

	Value Label	N
Concentration	0	54
	400	54
	800	54
	1600	54
	1 V-79	72
Cell type	2 HGF	72
	3 Wi-38	72

Descriptive Statistics

Dependent Variable: Cell viability (%)

Concentration	Cell type	Mean	Std. Deviation	N
0	V-79	100,0150	11,89084	18
	HGF	99,9718	8,47336	18
	Wi-38	101,7587	10,92334	18
	Total	100,5818	10,36146	54
400	V-79	38,5509	12,83835	18
	HGF	57,7154	9,28702	18
	Wi-38	67,4158	10,02038	18
	Total	54,5607	16,10257	54
800	V-79	33,6602	5,23481	18
	HGF	52,6321	9,19467	18
	Wi-38	64,0670	10,92251	18
	Total	50,1197	15,30985	54
1600	V-79	28,9186	6,81751	18
	HGF	42,1891	16,13320	18
	Wi-38	48,5428	11,43347	18
	Total	39,8835	14,43706	54
Total	V-79	50,2862	30,63819	72
	HGF	63,1271	24,71964	72
	Wi-38	70,4461	22,25581	72
	Total	61,2865	27,29663	216

Levene's Test of Equality of Error Variances^a

Dependent Variable: Cell viability (%)

F	df1	df2	Sig.
3,415	11	204	,000

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Concentration + Celltype + Concentration * Celltype

Tests of Between-Subjects Effects

Dependent Variable: Cell viability (%)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Noncent. Parameter	Observed Power ^b
Corrected Model	137201,554 ^a	11	12472,869	110,647	,000	1217,118	1,000
Intercept	811302,491	1	811302,491	7197,083	,000	7197,083	1,000
Concentration	117295,729	3	39098,576	346,844	,000	1040,533	1,000
Celltype	14997,079	2	7498,539	66,520	,000	133,039	1,000
Concentration * Celltype	4908,746	6	818,124	7,258	,000	43,546	,998
Error	22996,221	204	112,727				
Total	971500,266	216					
Corrected Total	160197,775	215					

a. R Squared = ,856 (Adjusted R Squared = ,849)

b. Computed using alpha = ,01

Parameter Estimates

Dependent Variable: Cell viability (%)

Parameter	B	Std. Error	t	Sig.	99% Confidence Interval		Noncent. Parameter	Observed Power ^b
					Lower	Upper		
					Bound	Bound		
Intercept	48,543	2,503	19,398	,000	42,036	55,050	19,398	1,000
[Concentration=0]	53,216	3,539	15,037	,000	44,014	62,418	15,037	1,000
[Concentration=400]	18,873	3,539	5,333	,000	9,671	28,075	5,333	,997
[Concentration=800]	15,524	3,539	4,386	,000	6,322	24,726	4,386	,962
[Concentration=1600]	0 ^a	.	.	.	.	.	.	.
[Celltype=1]	-19,624	3,539	-5,545	,000	-28,826	-10,422	5,545	,998
[Celltype=2]	-6,354	3,539	-1,795	,074	-15,556	2,848	1,795	,213
[Celltype=3]	0 ^a	.	.	.	.	.	.	.
[Concentration=0] *	17,880	5,005	3,572	,000	4,867	30,894	3,572	,833
[Celltype=1]	4,567	5,005	,912	,363	-8,447	17,581	,912	,048
[Concentration=0] *	0 ^a	.	.	.	.	.	.	.
[Celltype=3]	0 ^a	.	.	.	.	.	.	.
[Concentration=400] *	-9,241	5,005	-1,846	,066	-22,255	3,773	1,846	,228
[Celltype=1]	-3,347	5,005	-,669	,504	-16,361	9,667	,669	,029
[Concentration=400] *	0 ^a	.	.	.	.	.	.	.
[Celltype=3]	0 ^a	.	.	.	.	.	.	.
[Concentration=800] *	-10,783	5,005	-2,154	,032	-23,796	2,231	2,154	,330
[Celltype=1]	-5,081	5,005	-1,015	,311	-18,095	7,933	1,015	,059
[Concentration=800] *	0 ^a	.	.	.	.	.	.	.
[Celltype=3]	0 ^a	.	.	.	.	.	.	.
[Concentration=1600] *	0 ^a	.	.	.	.	.	.	.
[Celltype=1]	0 ^a	.	.	.	.	.	.	.
[Concentration=1600] *	0 ^a	.	.	.	.	.	.	.
[Celltype=2]	0 ^a	.	.	.	.	.	.	.
[Concentration=1600] *	0 ^a	.	.	.	.	.	.	.
[Celltype=3]	0 ^a	.	.	.	.	.	.	.

a. This parameter is set to zero because it is redundant.

b. Computed using alpha = ,01

Estimated Marginal Means

Concentration * Cell type					
Dependent Variable: Cell viability (%)					
Concentration	Cell type	Mean	Std. Error	99% Confidence Interval	
				Lower Bound	Upper Bound
0	V-79	100,015	2,503	93,508	106,522
	HGF	99,972	2,503	93,465	106,479
	Wi-38	101,759	2,503	95,252	108,266
400	V-79	38,551	2,503	32,044	45,058
	HGF	57,715	2,503	51,209	64,222
	Wi-38	67,416	2,503	60,909	73,923
800	V-79	33,660	2,503	27,153	40,167
	HGF	52,632	2,503	46,125	59,139
	Wi-38	64,067	2,503	57,560	70,574
1600	V-79	28,919	2,503	22,412	35,426
	HGF	42,189	2,503	35,682	48,696
	Wi-38	48,543	2,503	42,036	55,050

Post Hoc Tests

Concentration

Multiple Comparisons						
Dependent Variable: Cell viability (%)						
Dunnett t (<control)						
(I) Concentration	(J) Concentration	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
					Upper Bound	
400	0	-46,0211 [*]	2,04330	,000	-40,4819	
800	0	-50,4621 [*]	2,04330	,000	-44,9229	
1600	0	-60,6983 [*]	2,04330	,000	-55,1592	

Based on observed means.

The error term is Mean Square(Error) = 112,727.

*. The mean difference is significant at the ,01 level.

a. Dunnett t-tests treat one group as a control, and compare all other groups against it.

Homogeneous Subsets

Cell type

Multiple Comparisons

Dependent Variable: Cell viability (%)

Dunnett t (<control)

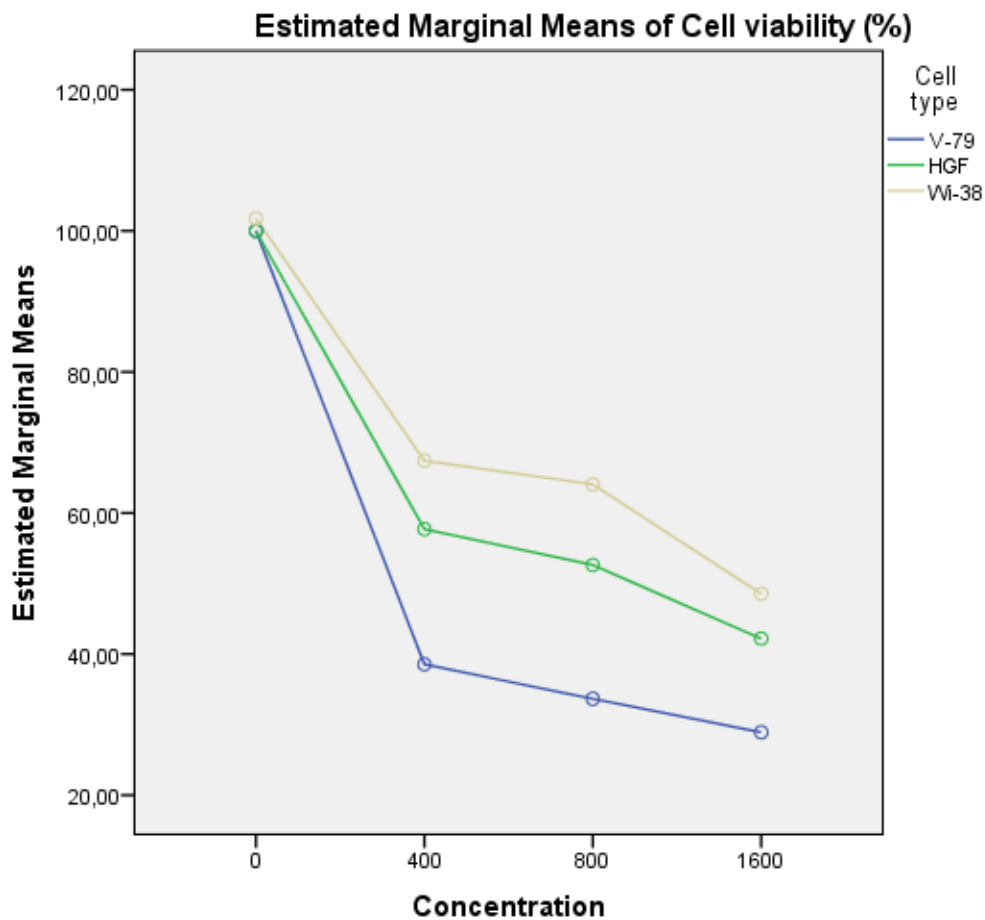
(I) Cell type	(J) Cell type	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval Upper Bound
HGF	V-79	12,8409	1,76955	1,000	17,4081
Wi-38	V-79	20,1599	1,76955	1,000	24,7271

Based on observed means.

The error term is Mean Square(Error) = 112,727.

a. Dunnett t-tests treat one group as a control, and compare all other groups against it.

Profile Plots



NPar Tests

Concentration = 0, Cell type = V-79

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	11,89084
	Absolute	,212
Most Extreme Differences	Positive	,104
	Negative	-,212
Kolmogorov-Smirnov Z		,900
Asymp. Sig. (2-tailed)		,392

a. Concentration = 0, Cell type = V-79

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 0, Cell type = HGF

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	8,47336
	Absolute	,126
Most Extreme Differences	Positive	,126
	Negative	-,088
Kolmogorov-Smirnov Z		,535
Asymp. Sig. (2-tailed)		,937

a. Concentration = 0, Cell type = HGF

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 0, Cell type = Wi-38

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	10,92334
	Absolute	,104
Most Extreme Differences	Positive	,104
	Negative	-,083
Kolmogorov-Smirnov Z		,443
Asymp. Sig. (2-tailed)		,989

a. Concentration = 0, Cell type = Wi-38

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 400, Cell type = V-79

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	12,83835
	Absolute	,222
Most Extreme Differences	Positive	,222
	Negative	-,162
Kolmogorov-Smirnov Z		,941
Asymp. Sig. (2-tailed)		,339

a. Concentration = 400, Cell type = V-79

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 400, Cell type = HGF

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	9,28702
	Absolute	,171
Most Extreme Differences	Positive	,171
	Negative	-,109
Kolmogorov-Smirnov Z		,725
Asymp. Sig. (2-tailed)		,669

a. Concentration = 400, Cell type = HGF

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 400, Cell type = Wi-38

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	10,02038
	Absolute	,158
Most Extreme Differences	Positive	,158
	Negative	-,095
Kolmogorov-Smirnov Z		,669
Asymp. Sig. (2-tailed)		,761

a. Concentration = 400, Cell type = Wi-38

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 800, Cell type = V-79

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	5,23481
	Absolute	,127
Most Extreme Differences	Positive	,127
	Negative	-,090
Kolmogorov-Smirnov Z		,538
Asymp. Sig. (2-tailed)		,934

a. Concentration = 800, Cell type = V-79

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 800, Cell type = HGF

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	9,19467
	Absolute	,231
Most Extreme Differences	Positive	,231
	Negative	-,159
Kolmogorov-Smirnov Z		,980
Asymp. Sig. (2-tailed)		,292

a. Concentration = 800, Cell type = HGF

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 800, Cell type = Wi-38

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	10,92251
	Absolute	,119
Most Extreme Differences	Positive	,104
	Negative	-,119
Kolmogorov-Smirnov Z		,506
Asymp. Sig. (2-tailed)		,960

a. Concentration = 800, Cell type = Wi-38

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 1600, Cell type = V-79

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	6,81751
	Absolute	,149
Most Extreme Differences	Positive	,114
	Negative	-,149
Kolmogorov-Smirnov Z		,630
Asymp. Sig. (2-tailed)		,822

a. Concentration = 1600, Cell type = V-79

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 1600, Cell type = HGF

One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	16,13320
	Absolute	,304
Most Extreme Differences	Positive	,304
	Negative	-,191
Kolmogorov-Smirnov Z		1,290
Asymp. Sig. (2-tailed)		,072

a. Concentration = 1600, Cell type = HGF

b. Test distribution is Normal.

c. Calculated from data.

Concentration = 1600, Cell type = Wi-38

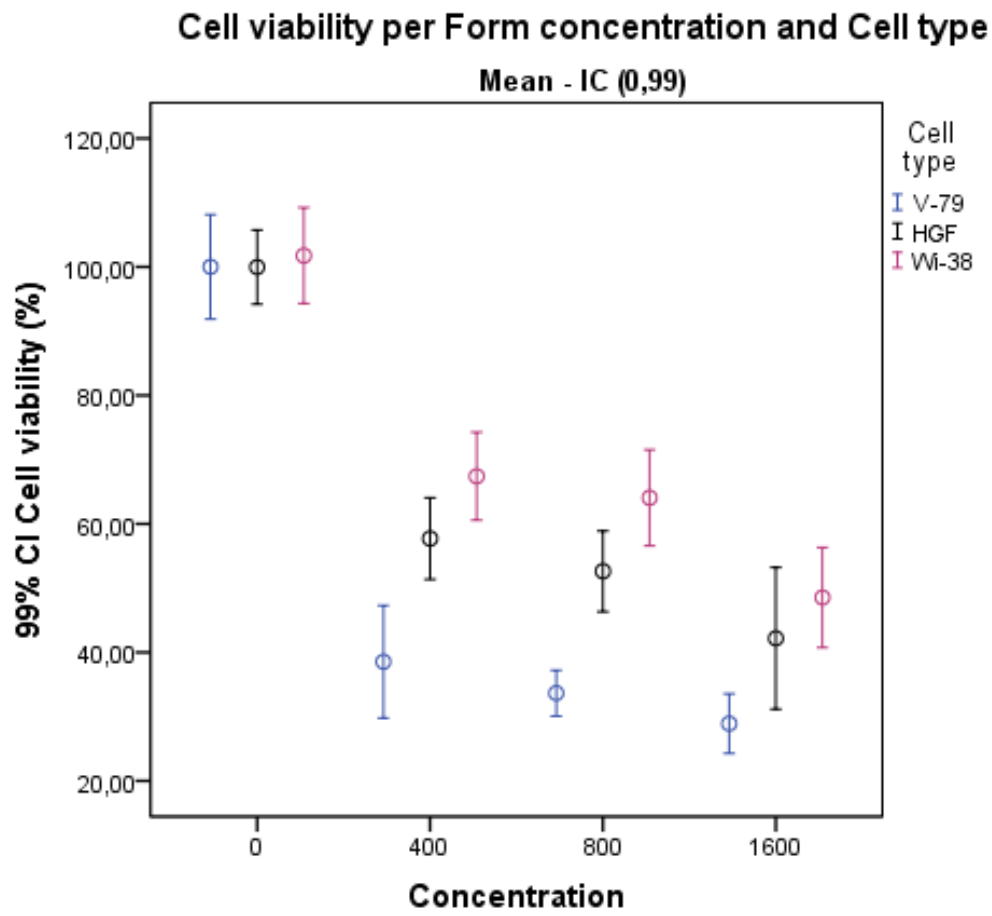
One-Sample Kolmogorov-Smirnov Test ^a		
		Residual for percellviabili
N		18
Normal Parameters ^{b,c}	Mean	,0000
	Std. Deviation	11,43347
	Absolute	,172
Most Extreme Differences	Positive	,124
	Negative	-,172
Kolmogorov-Smirnov Z		,729
Asymp. Sig. (2-tailed)		,663

a. Concentration = 1600, Cell type = Wi-38

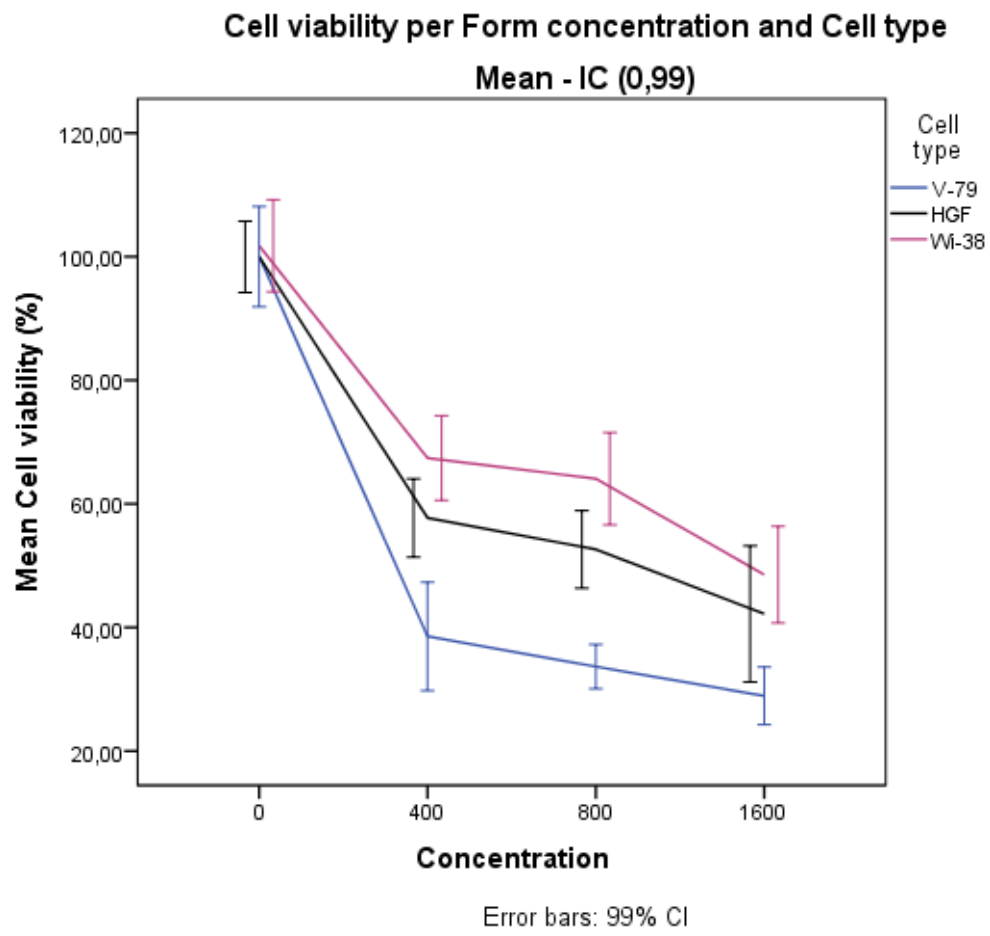
b. Test distribution is Normal.

c. Calculated from data.

Graph



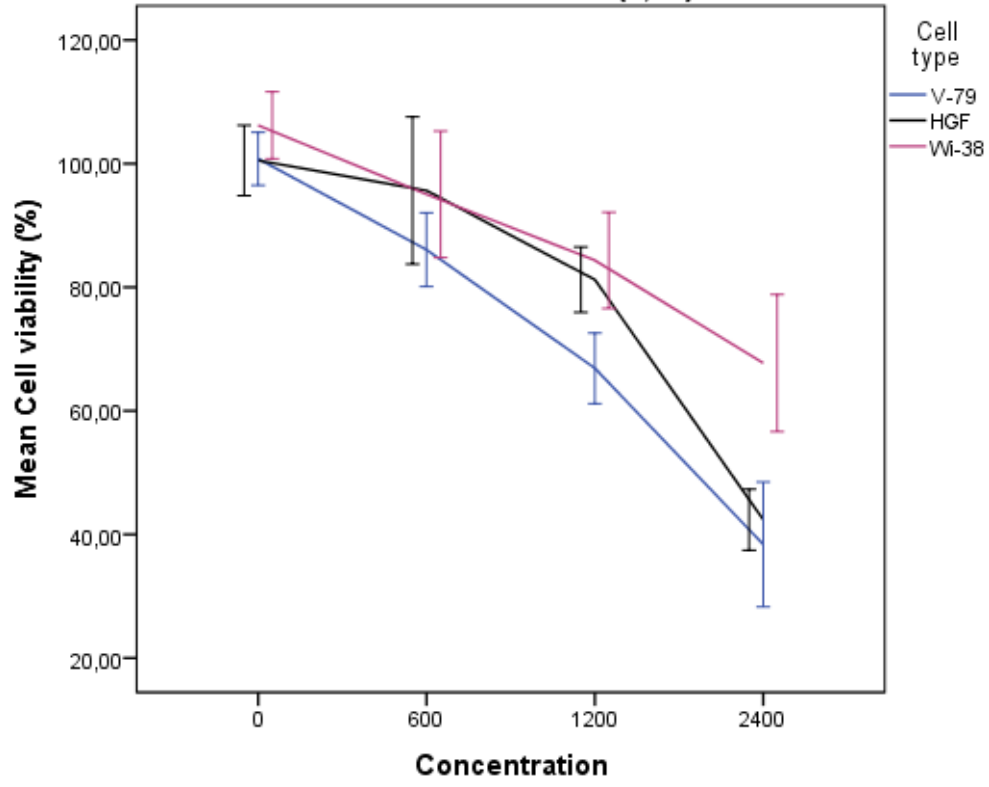
Graph



Graph

Cell viability per EMS concentration and Cell type

Mean - IC (0,99)



Error bars: 99% CI

Graph

