

APPENDIX
APPENDIX A

THE CYTOTOXICITY TESTING OF ALL COMPOUNDS

(■ and ■ = dividing cells, ■ and ▲ = non-dividing cells)

1. The cytotoxicity testing of SDS.

1.1 AMC-K46: SDS.

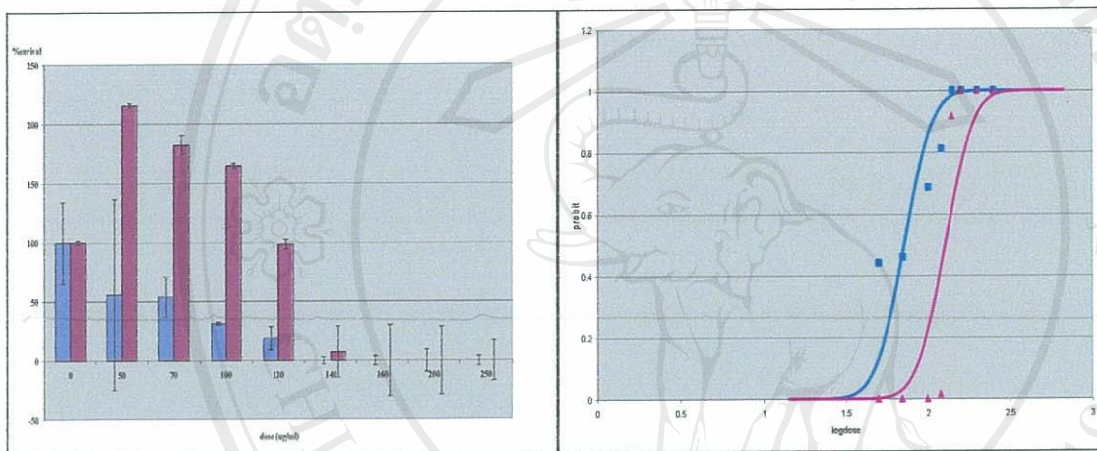


Figure 1 The MTT base cytotoxicity testing of SDS on the AMC-K46.

*** PriProbit ver.1.63 ***

ObservMTT and ExpectMTT Frequencies

1. SDS_dividing(AMC-K46)

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	0.0000e+000	-	100	0	0.000	0.000	0.0000	0.0000
2	5.0000e+001	1.69897	100	44	30.533	13.567	0.4410	0.3053
3	7.0000e+001	1.84510	100	46	55.878	-9.908	0.4597	0.5588
4	1.0000e+002	2.00000	100	69	80.076	-11.436	0.6864	0.8008
5	1.2000e+002	2.07918	100	81	88.500	-7.360	0.8114	0.8850
6	1.4000e+002	2.14613	100	100	93.337	6.663	1.0000	0.9334
7	1.6000e+002	2.20412	100	100	96.097	3.903	1.0000	0.9610
8	2.0000e+002	2.30103	100	100	98.602	1.398	1.0000	0.9860

2. SDS_non-dividing(AMC-K46)

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	0.0000e+000	-	100	0	0.000	0.000	0.0000	0.0000
2	5.0000e+001	1.69897	100	0	0.000	-0.000	0.0000	0.0000
3	7.0000e+001	1.84510	100	0	0.000	-0.000	0.0000	0.0000
4	1.0000e+002	2.00000	100	0	0.000	-0.000	0.0000	0.0000
5	1.2000e+002	2.07918	100	2	1.499	0.001	0.0150	0.0150
6	1.4000e+002	2.14613	100	92	91.722	-0.002	0.9172	0.9172
7	1.6000e+002	2.20412	100	100	100.000	0.000	1.0000	1.0000
8	2.0000e+002	2.30103	100	100	100.000	0.000	1.0000	1.0000

Pearson Chi-square Test on Sum of Squares

	DF	SS	MS	p
Parallelism	1	288.7083319	288.7083319	0.0000000
Heterogeneity	13	39.2228730	3.0171441	0.0002044
Total	14	327.9312050	23.4236575	0.0000000

Effective Dose Estimates (µg/ml)

	MTT ₂₅	MTT ₅₀	MTT ₇₅
Dividing(AMC-K46)	58.88	71.30	91.20
Non-dividing(AMC-K46)	1.04×10 ²	1.20×10 ²	1.62×10 ²

1.2 HeLa: SDS.

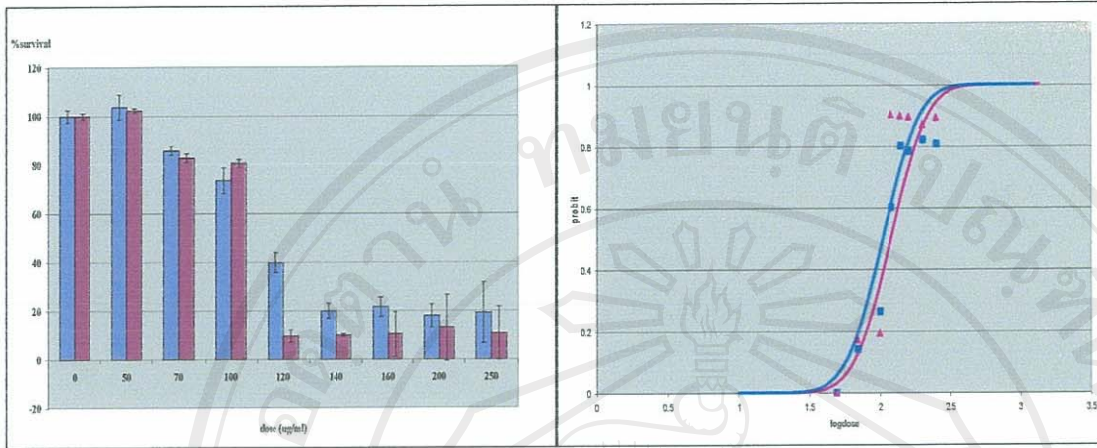


Figure 2 The MTT base cytotoxicity testing of SDS on the HeLa.

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ObservMTT and ExpectMTT Frequencies

1. SDS_dividing(HeLa)

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	0.0000e+000	-	100	0	0.000	0.000	0.0000	0.0000
2	5.0000e+001	1.69897	100	0	4.434	-4.434	0.0000	0.0443
3	7.0000e+001	1.84510	100	14	14.817	-0.627	0.1419	0.1482
4	1.0000e+002	2.00000	100	26	36.443	-10.083	0.2636	0.3644
5	1.2000e+002	2.07918	100	60	50.399	9.741	0.6014	0.5040
6	1.4000e+002	2.14613	100	80	62.230	17.840	0.8007	0.6223
7	1.6000e+002	2.20412	100	78	71.658	6.722	0.7838	0.7166
8	2.0000e+002	2.30103	100	82	84.356	-2.256	0.8210	0.8436
9	2.5000e+002	2.39794	100	81	92.586	-11.836	0.8075	0.9259

2. SDS_non-dividing(HeLa)

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	0.0000e+000	-	100	0	0.000	0.000	0.0000	0.0000
2	5.0000e+001	1.69897	100	0	4.010	-4.010	0.0000	0.0401
3	7.0000e+001	1.84510	100	17	16.799	0.501	0.1730	0.1680
4	1.0000e+002	2.00000	100	19	44.925	-25.585	0.1934	0.4492
5	1.2000e+002	2.07918	100	90	61.755	28.515	0.9027	0.6176
6	1.4000e+002	2.14613	100	90	74.530	15.360	0.8989	0.7453
7	1.6000e+002	2.20412	100	90	83.453	6.057	0.8951	0.8345
8	2.0000e+002	2.30103	100	87	93.246	-6.276	0.8697	0.9325
9	2.5000e+002	2.39794	100	89	97.813	-8.563	0.8925	0.9781

Pearson Chi-square Test on Sum of Squares

	DF	SS	MS	p
Parallelism	1	-0.6002565	-0.6002565	1.0000000
Heterogeneity	13	170.1062861	13.0850989	0.0000000
Total	14	169.5060296	12.1075735	0.0000000

Effective Dose Estimates (µg/ml)

	MTT ₂₅	MTT ₅₀	MTT ₇₅
Dividing(HeLa)	89.12	1.27×10 ²	1.73×10 ²
Non-dividing(HeLa)	77.62	1.04×10 ²	1.51×10 ²

2. The cytotoxicity of Annonaceous crude extracts on AMC-K46.

2.1 AMC-K46: *A. reticulata* (stem bark).

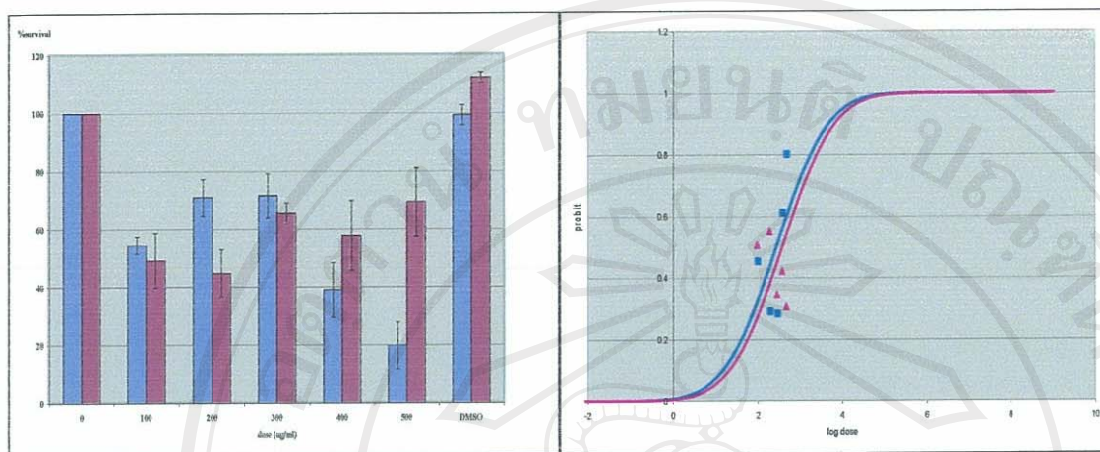


Figure 3 The MTT base cytotoxicity testing of *A. reticulata* (stem bark) on the AMC-K46.

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ObservMTT and ExpectMTT Frequencies

1. A.r.(yf)-dividing-AMC-K46

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	0.0000e+000	-	100	0	0.000	0.000	0.0000	0.0000
2	1.0000e+002	2.00000	100	45	30.769	14.631	0.4540	0.3077
3	2.0000e+002	2.30103	100	29	43.631	-14.531	0.2910	0.4363
4	3.0000e+002	2.47712	100	28	51.587	-23.187	0.2840	0.5159
5	4.0000e+002	2.60206	100	61	57.212	3.788	0.6100	0.5721
6	5.0000e+002	2.69897	100	80	61.482	18.618	0.8010	0.6148

2. A.r.(yf)-non-dividing-AMC-K46

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	0.0000e+000	-	100	0	0.000	0.000	0.0000	0.0000
2	1.0000e+002	2.00000	100	51	54.651	-3.951	0.5070	0.5465
3	2.0000e+002	2.30103	100	55	45.856	9.244	0.5510	0.4586
4	3.0000e+002	2.47712	100	35	40.777	-6.277	0.3450	0.4078
5	4.0000e+002	2.60206	100	42	37.261	4.939	0.4220	0.3726
6	5.0000e+002	2.69897	100	31	34.603	-3.903	0.3070	0.3460

Pearson Chi-square Test on Sum of Squares

	DF	SS	MS	p
Parallelism	1	31.1044334	31.1044334	0.0000000
Heterogeneity	7	62.8057591	8.9722513	0.0000000
Total	8	93.9101924	11.7387741	0.0000000

Effective Dose Estimates (µg/ml)

	MTT ₂₅	MTT ₅₀	MTT ₇₅
Dividing(AMC-K46)	1.04×10^2	3.7×10^2	1.04×10^3
Non-dividing(AMC-K46)	1.20×10^2	2.2×10^2	2.39×10^4

2.2 AMC-K46: *A. reticulata* (young fruit).

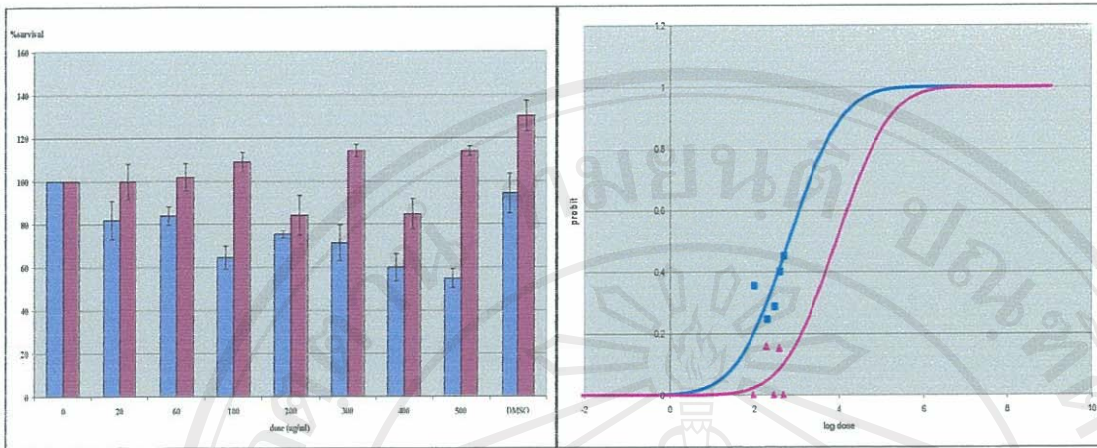


Figure 4 The MTT base cytotoxicity testing of *A. reticulata* (young fruit) on the AMC-K46.

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ObserveMTT and ExpectMTT Frequencies

1. A.r.(yf.)-dividing-AMC-K46

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	1.0000e+000	-	100	0	0.000	0.000	0.0000	0.0000
2	1.0000e+002	2.00000	100	35	28.876	6.524	0.3540	0.2888
3	2.0000e+002	2.30103	100	25	33.044	-8.444	0.2460	0.3304
4	3.0000e+002	2.47712	100	29	35.589	-6.889	0.2870	0.3559
5	4.0000e+002	2.60206	100	40	37.434	2.566	0.4000	0.3743
6	5.0000e+002	2.69897	100	45	38.886	6.214	0.4510	0.3889

2. A.r.(yf.)-non-dividing-AMC-K46

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	1.0000e+000	-	100	0	0.000	0.000	0.0000	0.0000
2	1.0000e+002	2.00000	100	0	4.727	-4.727	0.0000	0.0473
3	2.0000e+002	2.30103	100	16	5.725	10.075	0.1580	0.0572
4	3.0000e+002	2.47712	100	0	6.381	-6.381	0.0000	0.0638
5	4.0000e+002	2.60206	100	15	6.880	8.320	0.1520	0.0688
6	5.0000e+002	2.69897	100	0	7.288	-7.288	0.0000	0.0729

Pearson Chi-square Test on Sum of Squares

	DF	SS	MS	p
Parallelism	1	0.1564856	0.1564856	0.6924130
Heterogeneity	7	58.5227200	8.3603886	0.0000000
Total	8	58.6792056	7.3349007	0.0000000

Effective Dose Estimates (µg/ml)

	MTT ₂₀	MTT ₂₅	MTT ₅₀	MTT ₇₅
Dividing(AMC-K46)	1.0×10 ²	165×10 ²	2.99×10 ³	6.0×10 ³
Non-dividing(AMC-K46)		1.47×10 ³	3.76×10 ⁶	5.4×10 ⁶

2.3 AMC-K46: *A. reticulata* (leaves).

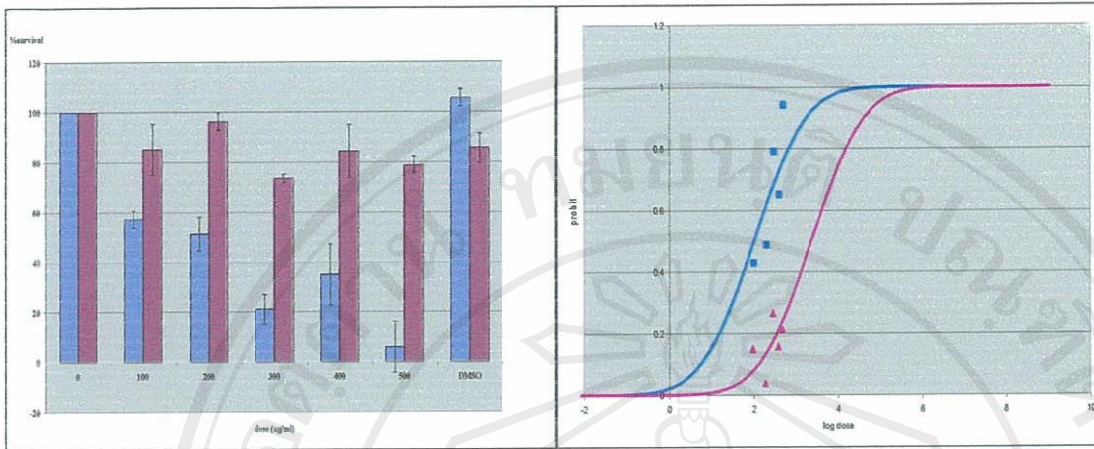


Figure 5 The MTT base cytotoxicity testing of *A. reticulata* (leaves) on the AMC-K46.

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ObservMTT and ExpectMTT Frequencies

1. A.r.(lv.)-dividing-AMC-K46

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	10.0000e+000	-	100	0	0.0000	0.0000	0.0000	0.0000
2	1.0000e+002	2.00000	100	43	37.233	5.537	0.4277	0.3723
3	2.0000e+002	2.30103	100	49	59.288	-10.598	0.4869	0.5929
4	3.0000e+002	2.47712	100	79	71.326	7.574	0.7890	0.7133
5	4.0000e+002	2.60206	100	65	78.687	-13.587	0.6510	0.7869
6	5.0000e+002	2.69897	100	94	83.549	10.551	0.9410	0.8355

2. A.r.(lv.)-non-dividing-AMC-K46

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	10.0000e+000	-	100	0	0.0000	0.0000	0.0000	0.0000
2	1.0000e+002	2.00000	100	15	11.313	3.587	0.1490	0.1131
3	2.0000e+002	2.30103	100	4	14.724	-11.024	0.0370	0.1472
4	3.0000e+002	2.47712	100	27	17.010	9.490	0.2650	0.1701
5	4.0000e+002	2.60206	100	16	18.763	-3.063	0.1570	0.1876
6	5.0000e+002	2.69897	100	21	20.197	1.003	0.2120	0.2020

Pearson Chi-square Test on Sum of Squares

	DF	SS	MS	p
Parallelism	1	14.4499815	14.4499815	0.0001439
Heterogeneity	7	45.8963035	6.5566148	0.0000001
Total	8	60.3462850	7.5432856	0.0000000

Effective Dose Estimates (µg/ml)

	MTT ₂₅	MTT ₅₀	MTT ₇₅
Dividing(AMC-K46)	25.70	1.21×10^2	6.30×10^2
Non-dividing(AMC-K46)	6.0×10^2	1.54×10^3	1.50×10^4

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2.4 AMC-K46: *A. squamosa* (young fruit).

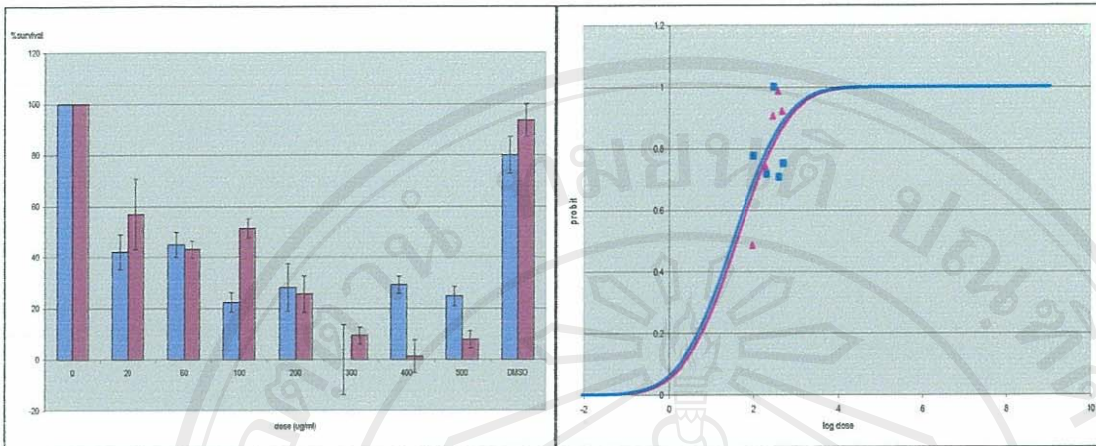


Figure 6 The MTT base cytotoxicity testing of *A. squamosa* (young fruit) on the AMC-K46.

*** PriProbit ver.1.63 ***

ObservMTT and ExpectMTT Frequencies

1. *A.s.*(yf.)-dividing-AMC-K46

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	10.0000e+000	-	100	0	0.000	0.000	0.0000	0.0000
2	1.0000e+002	2.00000	100	78	78.917	-1.347	0.7757	0.7892
3	2.0000e+002	2.30103	100	72	78.999	-7.289	0.7171	0.7900
4	3.0000e+002	2.47712	100	100	79.047	20.953	1.0000	0.7905
5	4.0000e+002	2.60206	100	71	79.081	-8.341	0.7074	0.7908
6	5.0000e+002	2.69897	100	75	79.107	-3.977	0.7513	0.7911

2. *A.s.*(yf.)-non-dividing-AMC-K46

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	10.0000e+000	-	100	0	0.000	0.000	0.0000	0.0000
2	1.0000e+002	2.00000	100	49	48.512	0.128	0.4864	0.4851
3	2.0000e+002	2.30103	100	74	77.252	-2.932	0.7432	0.7725
4	3.0000e+002	2.47712	100	91	88.610	2.030	0.9064	0.8861
5	4.0000e+002	2.60206	100	99	93.720	4.920	0.9864	0.9372
6	5.0000e+002	2.69897	100	92	96.280	-4.130	0.9215	0.9628

Pearson Chi-square Test on Sum of Squares

	DF	SS	MS	p
Parallelism	1	2.8265783	2.8265783	0.0927157
Heterogeneity	12	164.6401931	13.7200161	0.0000000
Total	13	167.4667714	12.8820593	0.0000000

Effective Dose Estimates (µg/ml)

	MTT ₂₀	MTT ₂₅	MTT ₅₀	MTT ₇₅
Dividing(AMC-K46)	7.24	10.47	53.70	2.54×10 ²
Non-dividing(AMC-K46)		8.31	43.75	1.94×10 ²

2.5 AMC-K46: *A. squamosa* (leaves).

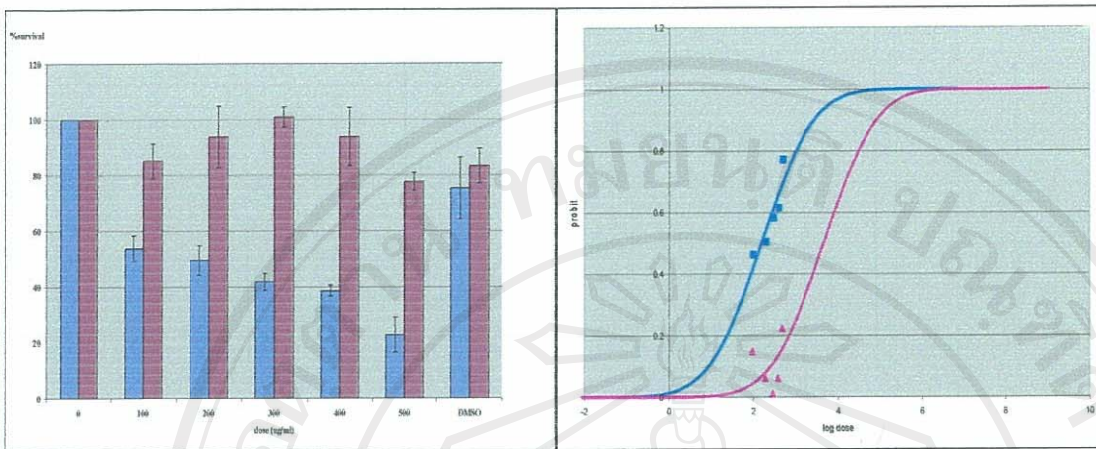


Figure 7 The MTT base cytotoxicity testing of *A. squamosa* (leaves) on the AMC-K46.

*** PriProbit ver.1.63 ***

ObservMTT and ExpectMTT Frequencies

1. *A.s.*(lv.)-dividing-AMC-K46

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	10.0000e+000	-	100	0	0.000	-0.000	0.0000	0.0000
2	1.0000e+002	2.00000	100	46	42.314	3.886	0.4620	0.4231
3	2.0000e+002	2.30103	100	50	54.336	-3.936	0.5040	0.5434
4	3.0000e+002	2.47712	100	58	61.256	-3.156	0.5810	0.6126
5	4.0000e+002	2.60206	100	61	65.970	-4.570	0.6140	0.6597
6	5.0000e+002	2.69897	100	77	69.466	7.634	0.7710	0.6947

2. *A.s.*(lv.)-non-dividing-AMC-K46

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	10.0000e+000	-	100	0	0.000	-0.000	0.0000	0.0000
2	1.0000e+002	2.00000	100	15	9.244	5.556	0.1480	0.0924
3	2.0000e+002	2.30103	100	6	9.823	-3.723	0.0610	0.0982
4	3.0000e+002	2.47712	100	1	10.174	-9.174	0.0100	0.1017
5	4.0000e+002	2.60206	100	6	10.429	-4.329	0.0610	0.1043
6	5.0000e+002	2.69897	100	22	10.630	11.670	0.2230	0.1063

Pearson Chi-square Test on Sum of Squares

	DF	SS	MS	p
Parallelism	1	6.1526083	6.1526083	0.0131218
Heterogeneity	7	36.1376118	5.1625160	0.0000068
Total	8	42.2902201	5.2862775	0.0000012

Effective Dose Estimates (μg/ml)

	MTT ₂₅	MTT ₅₀	MTT ₇₅
Dividing(AMC-K46)	39.8	1.22×10^2	8.20×10^2
Non-dividing(AMC-K46)	3.77×10^3	2.06×10^4	1.6×10^6

2.6 AMC-K46: *C. odorata* (leaves).

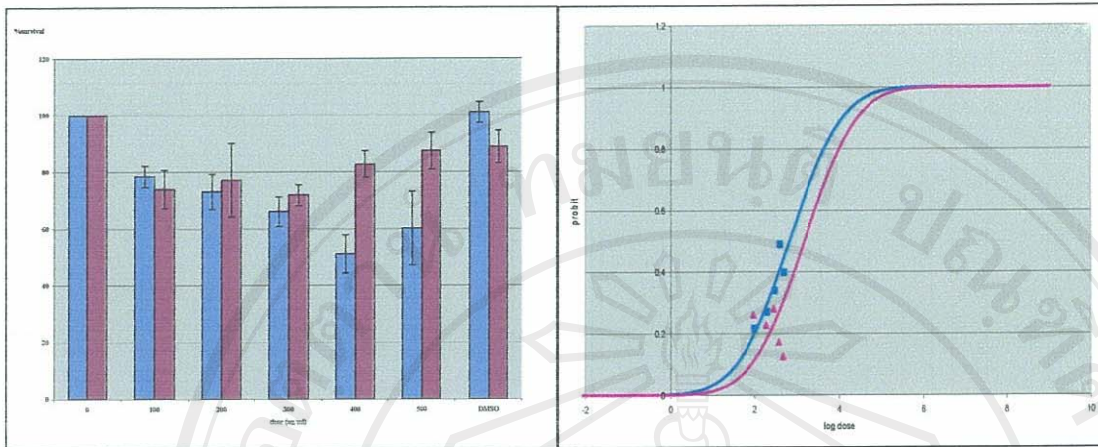


Figure 8 The MTT base cytotoxicity testing of *C. odorata* on AMC-K46.

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ObservMTT and ExpectMTT Frequencies

1. *C.odorata*(lv.)-dividing-AMC-K46

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	0.0000e+000	-	100	0	0.000	0.000	0.0000	0.0000
2	1.0000e+002	2.00000	100	22	20.427	1.073	0.2150	0.2043
3	2.0000e+002	2.30103	100	27	29.730	-2.830	0.2690	0.2973
4	3.0000e+002	2.47712	100	34	35.941	-2.041	0.3390	0.3594
5	4.0000e+002	2.60206	100	49	40.599	8.301	0.4890	0.4060
6	5.0000e+002	2.69897	100	40	44.309	-4.509	0.3980	0.4431

2. *C.odorata*(lv.)-non-dividing-AMC-K46

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	0.0000e+000	-	100	0	0.000	0.000	0.0000	0.0000
2	1.0000e+002	2.00000	100	26	28.338	-2.338	0.2600	0.2834
3	2.0000e+002	2.30103	100	23	22.953	-0.253	0.2270	0.2295
4	3.0000e+002	2.47712	100	28	20.090	7.910	0.2800	0.2009
5	4.0000e+002	2.60206	100	17	18.195	-0.995	0.1720	0.1819
6	5.0000e+002	2.69897	100	13	16.805	-4.305	0.1250	0.1680

Pearson Chi-square Test on Sum of Squares

	DF	SS	MS	p
Parallelism	1	18.2099858	18.2099858	0.0000198
Heterogeneity	7	9.8790544	1.4112935	0.1955316
Total	8	28.0890402	3.5111300	0.0004576

Effective Dose Estimates (µg/ml)

	MTT ₂₅	MTT ₅₀	MTT ₇₅
Dividing(AMC-K46)	1.73×10 ²	1.06×10 ⁴	3.22×10 ⁹
Non-dividing(AMC-K46)	4.07×10 ²	3.55×10 ⁵	1.54×10 ¹⁰

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2.7 AMC-K46: *C. fruticosa* (leaves).

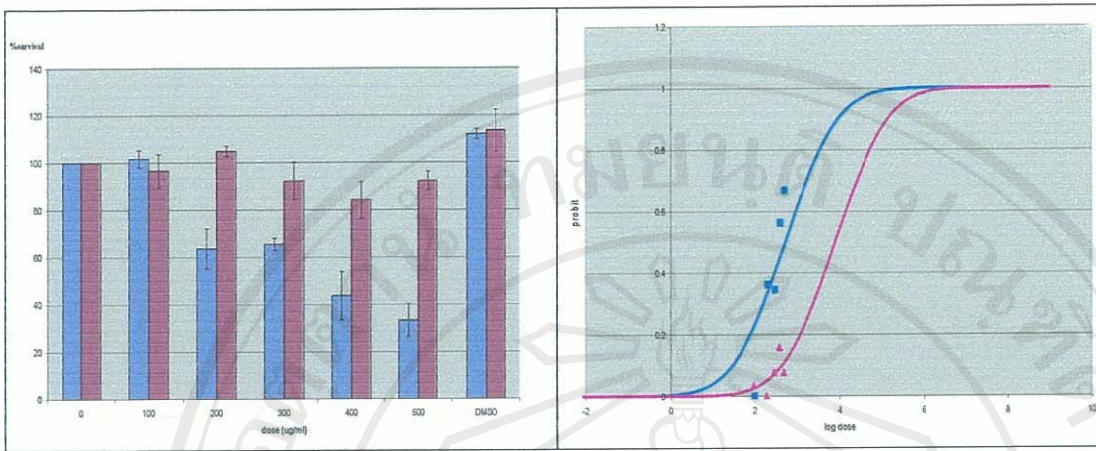


Figure 9 The MTT base cytotoxicity testing of *C. fruticosa* on AMC-K46

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ObservMTT and ExpectMTT Frequencies

1. *C. fruticosa*(lv.)-dividing-AMC-K46

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	0.0000e+000	-	100	0	0.000	0.000	0.0000	0.0000
2	1.0000e+002	2.00000	100	0	4.538	-4.538	0.0000	0.0454
3	2.0000e+002	2.30103	100	36	22.323	13.877	0.3620	0.2232
4	3.0000e+002	2.47712	100	35	41.402	-6.902	0.3450	0.4140
5	4.0000e+002	2.60206	100	56	56.703	-0.403	0.5630	0.5670
6	5.0000e+002	2.69897	100	67	68.020	-1.320	0.6670	0.6802

2. *C. fruticosa*(lv.)-non-dividing-AMC-K46

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	0.0000e+000	-	100	0	0.000	0.000	0.0000	0.0000
2	1.0000e+002	2.00000	100	3	1.962	1.438	0.0340	0.0196
3	2.0000e+002	2.30103	100	0	4.563	-4.563	0.0000	0.0456
4	3.0000e+002	2.47712	100	8	7.068	0.632	0.0770	0.0707
5	4.0000e+002	2.60206	100	16	9.409	-6.391	0.1580	0.0941
6	5.0000e+002	2.69897	100	8	11.585	-3.885	0.0770	0.1159

Pearson Chi-square Test on Sum of Squares

	DF	SS	MS	p
Parallelism	1	29.3378301	29.3378301	0.0000001
Heterogeneity	7	30.0904951	4.2986422	0.0000914
Total	8	59.4283252	7.4285407	0.0000000

Effective Dose Estimates (µg/ml)

	MTT ₂₅	MTT ₅₀	MTT ₇₅
Dividing(AMC-K46)	1.34×10 ²	3.64×10 ²	3.16×10 ³
Non-dividing(AMC-K46)	2.08×10 ²	1.21×10 ³	3.31×10 ⁴

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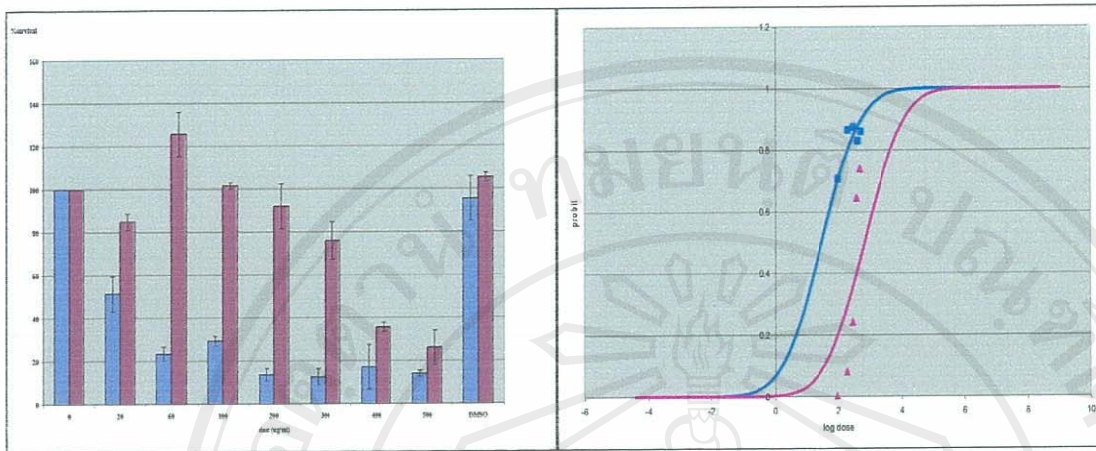
2.8 AMC-K46: *M. fruticosum* (leaves).

Figure 10 The MTT base cytotoxicity testing of *M. fruticosum* on AMC-K46

*** PriProbit ver.1.63 ***

ObservMTT and ExpectMTT Frequencies

1. M.f.(lv.)-dividing-AMC-K46

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	0.0000e+000	-	100	0	0.000	-0.000	0.0000	0.0000
2	1.0000e+002	2.00000	100	71	74.606	-3.906	0.7070	0.7461
3	2.0000e+002	2.30103	100	86	80.892	5.508	0.8640	0.8089
4	3.0000e+002	2.47712	100	87	84.081	3.319	0.8740	0.8408
5	4.0000e+002	2.60206	100	83	86.119	-3.219	0.8290	0.8612
6	5.0000e+002	2.69897	100	86	87.572	-1.672	0.8590	0.8757

2. M.f.(lv.)-non-dividing-AMC-K46

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	0.0000e+000	-	100	0	0.000	-0.000	0.0000	0.0000
2	1.0000e+002	2.00000	100	0	0.067	-0.067	0.0000	0.0007
3	2.0000e+002	2.30103	100	8	6.518	1.482	0.0800	0.0652
4	3.0000e+002	2.47712	100	24	30.070	-5.970	0.2410	0.3007
5	4.0000e+002	2.60206	100	64	57.152	7.248	0.6440	0.5715
6	5.0000e+002	2.69897	100	74	76.585	-2.685	0.7390	0.7659

Pearson Chi-square Test on Sum of Squares

	DF	SS	MS	p
Parallelism	1	91.2772624	91.2772624	0.0000000
Heterogeneity	7	9.3852557	1.3407508	0.2261666
Total	8	100.6625180	12.5828148	0.0000000

Effective Dose Estimates ($\mu\text{g/ml}$)

	MTT ₂₀	MTT ₂₅	MTT ₅₀	MTT ₇₅
Dividing(AMC-K46)	3.09	4.89	10.48	1.77×10^2
Non-dividing(AMC-K46)		1.14×10^2	4.39×10^2	2.18×10^3

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3. The cytotoxicity of Annonaceous crude extract on HeLa cell.

3.1 HeLa: *A. reticulata* (stem bark).

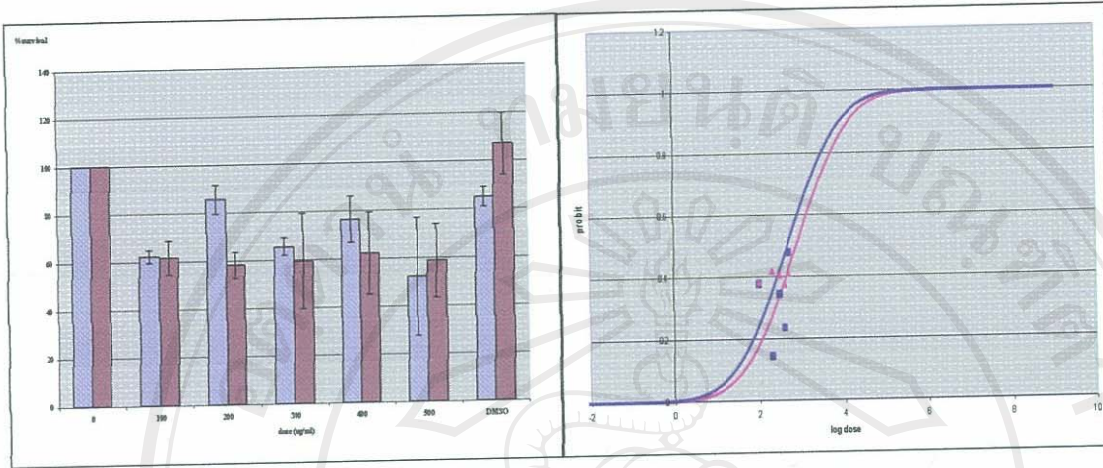


Figure 11 The MTT base cytotoxicity testing of *A. reticulata* (stem bark) on the HeLa.

*** Probit ver.1.63 ***

ObservMTT and ExpectMTT Frequencies

1. A.r.(sb.)-dividing-HeLa

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	0.0000e+000	-	100	0	0.000	0.000	0.0000	0.0000
2	1.0000e+002	2.00000	100	38	28.051	9.749	0.3780	0.2805
3	2.0000e+002	2.30103	100	14	30.595	-16.295	0.1430	0.3059
4	3.0000e+002	2.47712	100	35	32.129	2.371	0.3450	0.3213
5	4.0000e+002	2.60206	100	24	33.236	-9.636	0.2360	0.3324
6	5.0000e+002	2.69897	100	48	34.105	13.795	0.4790	0.3411

2. A.r.(sb.)-non-dividing-HeLa

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	0.0000e+000	-	100	0	0.000	0.000	0.0000	0.0000
2	1.0000e+002	2.00000	100	38	39.413	-1.013	0.3840	0.3941
3	2.0000e+002	2.30103	100	42	39.837	2.063	0.4190	0.3984
4	3.0000e+002	2.47712	100	41	40.086	0.614	0.4070	0.4009
5	4.0000e+002	2.60206	100	38	40.263	-2.563	0.3770	0.4026
6	5.0000e+002	2.69897	100	41	40.400	0.900	0.4130	0.4040

Pearson Chi-square Test on Sum of Squares

	DF	SS	MS	p
Parallelism	1	0.3667201	0.3667201	0.5447976
Heterogeneity	7	30.6665181	4.3809312	0.0000716
Total	8	31.0332382	3.8791548	0.0001386

Effective Dose Estimates (µg/ml)

	MTT ₂₅	MTT ₅₀	MTT ₇₅
Dividing(HeLa)	1.94×10 ²	7.26×10 ⁵	4.67×10 ⁶
Non-dividing(HeLa)	1.20×10 ²	1.73×10 ⁴	2.81×10 ⁶

3.2 HeLa: *A. reticulata* (young fruit).

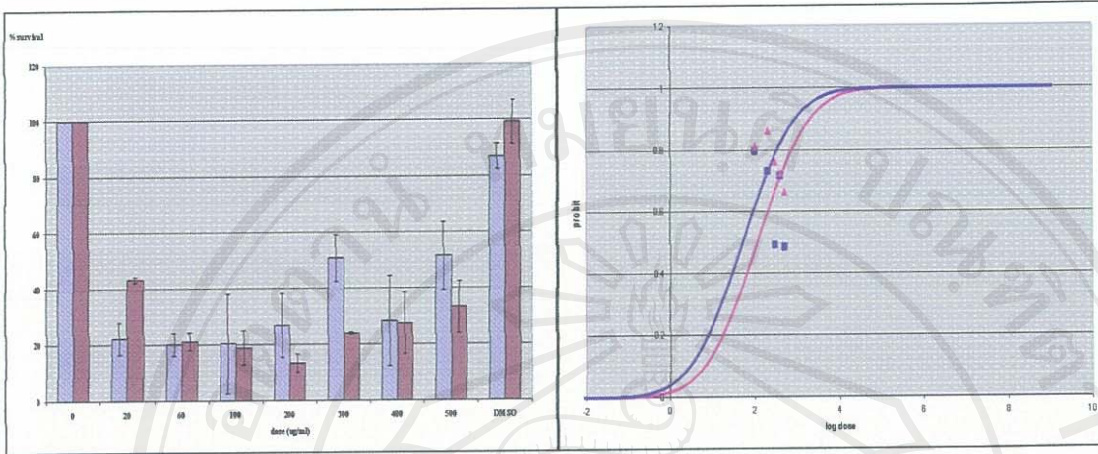


Figure 12 The MTT base cytotoxicity testing of *A. reticulata* (young fruit) on the HeLa.

*** PriProbit ver.1.63 ***

ObservMTT and ExpectMTT Frequencies

1. A.r.(yf.)-dividing-HeLa

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	0.0000e+000	-	100	0	0.000	0.000	0.0000	0.0000
2	1.0000e+002	2.00000	100	80	79.629	0.071	0.7970	0.7963
3	2.0000e+002	2.30103	100	73	69.439	3.761	0.7320	0.6944
4	3.0000e+002	2.47712	100	49	62.592	-13.292	0.4930	0.6259
5	4.0000e+002	2.60206	100	72	57.464	14.236	0.7170	0.5746
6	5.0000e+002	2.69897	100	49	53.393	-4.793	0.4860	0.5339

2. A.r.(yf.)-non-dividing-HeLa

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	0.0000e+000	-	100	0	0.000	0.000	0.0000	0.0000
2	1.0000e+002	2.00000	100	81	85.134	-3.934	0.8120	0.8513
3	2.0000e+002	2.30103	100	86	79.361	6.839	0.8620	0.7936
4	3.0000e+002	2.47712	100	76	75.442	0.758	0.7620	0.7544
5	4.0000e+002	2.60206	100	73	72.436	0.064	0.7250	0.7244
6	5.0000e+002	2.69897	100	66	69.985	-3.685	0.6630	0.6999

Pearson Chi-square Test on Sum of Squares

	DF	SS	MS	p
Parallelism	1	1.1250150	1.1250150	0.2888412
Heterogeneity	7	22.1830256	3.1690037	0.0023622
Total	8	23.3080406	2.9135051	0.0029905

Effective Dose Estimates (µg/ml)

	MTT ₂₀	MTT ₂₅	MTT ₅₀	MTT ₇₅
Dividing(HeLa)	0.19	0.22	0.86	18.2
Non-dividing(HeLa)		8.31	21.0	3.09×10 ²

3.3 HeLa: *A. reticulata* (leaves).

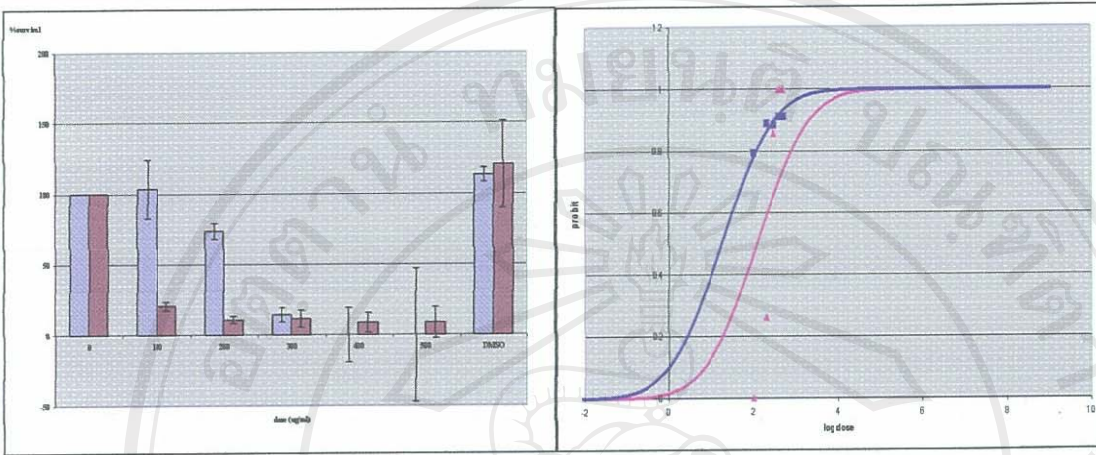


Figure 13 The MTT base cytotoxicity testing of *A. reticulata* (leaves) on the HeLa.

*** PriProbit ver.1.63 ***

ObservMTT and ExpectMTT Frequencies

1. A.r.(lv.)-dividing-HeLa

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	10.0000e+000	-	100	0	0.000	0.000	0.0000	0.0000
2	1.0000e+002	2.00000	100	0	0.008	-0.008	0.0000	0.0001
3	3.2000e+002	2.30103	100	26	25.368	0.952	0.2632	0.2537
4	4.3.0000e+002	2.47712	100	86	87.724	-1.934	0.8579	0.8772
5	5.4.0000e+002	2.60206	100	100	99.297	0.703	1.0000	0.9930
6	5.5.0000e+002	2.69897	100	100	99.973	0.027	1.0000	0.9997

2. A.r.(lv.)-non-dividing-HeLa

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	10.0000e+000	-	100	0	0.000	0.000	0.0000	0.0000
2	1.0000e+002	2.00000	100	79	80.776	-1.326	0.7945	0.8078
3	3.2.0000e+002	2.30103	100	89	86.452	2.538	0.8899	0.8645
4	4.3.0000e+002	2.47712	100	88	89.178	-0.728	0.8845	0.8918
5	5.4.0000e+002	2.60206	100	91	90.857	0.343	0.9120	0.9086
6	5.5.0000e+002	2.69897	100	91	92.020	-0.820	0.9120	0.9202

Pearson Chi-square Test on Sum of Squares

	DF	SS	MS	p
Parallelism	1	204.4915796	204.4915796	0.0000000
Heterogeneity	7	1.9621405	0.2803058	0.9619060
Total	8	206.4537202	25.8067150	0.0000000

Effective Dose Estimates (µg/ml)

	MTT ₂₅	MTT ₅₀	MTT ₇₅
Dividing(HeLa)	19.47	61.59	7.24 × 10 ²
Non-dividing(HeLa)	10.47	96.30	1.47 × 10 ³

3.4 HeLa: *A. squamosa* (young fruit).

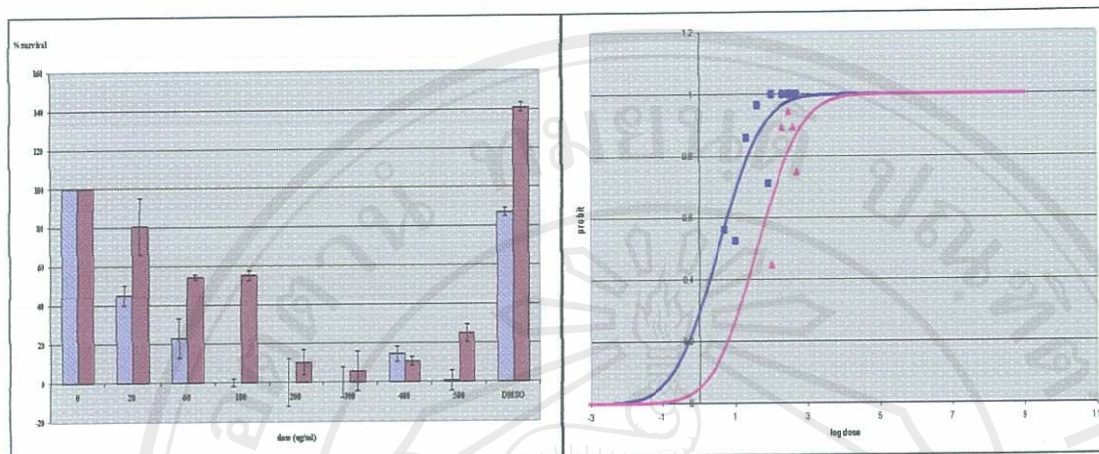


Figure 14 The MTT base cytotoxicity testing of *A. squamosa* (young fruit) on the HeLa.

*** PriProbit ver.1.63 ***

ObservMTT and ExpectMTT Frequencies

1. A.s.(yf.)-dividing-HeLa

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	0.0000e+000	-	100	0	0.000	-0.000	0.0000	0.0000
2	5.0000e+000	0.69897	100	56	49.998	6.152	0.5615	0.5000
3	1.0000e+001	1.00000	100	53	64.693	-12.053	0.5264	0.6469
4	2.0000e+001	1.30103	100	86	77.462	8.503	0.8597	0.7746
5	4.0000e+001	1.60206	100	97	87.102	9.398	0.9650	0.8710
6	8.0000e+001	1.90309	100	71	93.426	-22.326	0.7110	0.9343
7	1.0000e+002	2.00000	100	100	94.842	5.158	1.0000	0.9484
8	2.0000e+002	2.30103	100	100	97.761	2.239	1.0000	0.9776
9	3.0000e+002	2.47712	100	100	98.704	1.296	1.0000	0.9870
10	4.0000e+002	2.60206	100	100	99.143	0.857	1.0000	0.9914
11	5.0000e+002	2.69897	100	100	99.388	0.612	1.0000	0.9939

2. A.s.(yf.)-non-dividing-HeLa

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	0.0000e+000	-	100	0	0.000	-0.000	0.0000	0.0000
2	1.0000e+002	2.00000	100	45	58.212	-13.312	0.4490	0.5821
3	2.0000e+002	2.30103	100	89	74.756	14.544	0.8930	0.7476
4	3.0000e+002	2.47712	100	94	82.527	11.873	0.9440	0.8253
5	4.0000e+002	2.60206	100	89	87.000	2.400	0.8940	0.8700
6	5.0000e+002	2.69897	100	75	89.872	-14.872	0.7500	0.8987

Pearson Chi-square Test on Sum of Squares

	DF	SS	MS	p
Parallelism	1	2.8265783	2.8265783	0.0927157
Heterogeneity	12	164.6401931	13.7200161	0.0000000
Total	13	167.4667714	12.820593	0.0000000

Effective Dose Estimates ($\mu\text{g/ml}$)

	MTT ₂₀	MTT ₂₅	MTT ₅₀	MTT ₇₅
Dividing(HeLa)	1.14	1.34	5.25	25.47
Non-dividing(HeLa)		10.23	59.24	1.51×10^2

3.5 HeLa: *A. squamosa* (leaves).

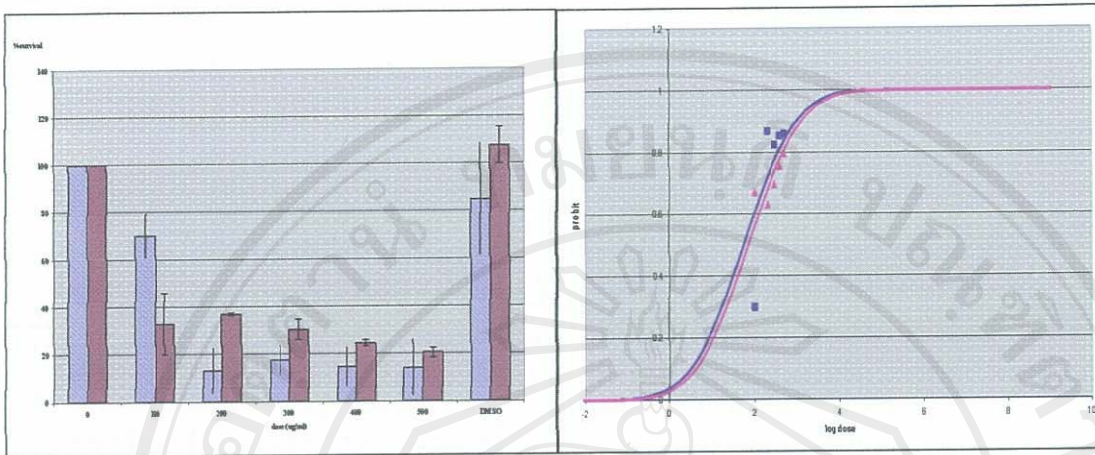


Figure 15 The MTT base cytotoxicity testing *A. squamosa* (leaves) on the HeLa.

*** PriProbit ver.1.63 ***

ObservMTT and ExpectMTT Frequencies

1. A.s.(lv.)-dividing-HeLa

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	0.0000e+000	-	100	0	0.000	0.000	0.0000	0.0000
2	1.0000e+002	2.00000	100	30	41.104	-11.184	0.2992	0.4110
3	2.0000e+002	2.30103	100	87	68.029	18.871	0.8690	0.6803
4	3.0000e+002	2.47712	100	83	80.898	1.632	0.8253	0.8090
5	4.0000e+002	2.60206	100	85	87.737	-2.297	0.8544	0.8774
6	5.0000e+002	2.69897	100	86	91.700	-5.770	0.8593	0.9170

2. A.s.(lv.)-non-dividing-HeLa

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	0.0000e+000	-	100	0	0.000	0.000	0.0000	0.0000
2	1.0000e+002	2.00000	100	67	62.902	4.168	0.6707	0.6290
3	2.0000e+002	2.30103	100	63	68.950	-5.920	0.6303	0.6895
4	3.0000e+002	2.47712	100	70	72.275	-2.655	0.6962	0.7228
5	4.0000e+002	2.60206	100	75	74.524	0.926	0.7545	0.7452
6	5.0000e+002	2.69897	100	80	76.200	3.450	0.7965	0.7620

Pearson Chi-square Test on Sum of Squares

	DF	SS	MS	p
Parallelism	1	24.9142616	24.9142616	0.0000006
Heterogeneity	7	30.0098850	4.2871264	0.0000946
Total	8	54.9241465	6.8655183	0.0000000

Effective Dose Estimates (µg/ml)

	MTT ₂₅	MTT ₅₀	MTT ₇₅
Dividing(HeLa)	13.80	82.30	3.23×10^2
Non-dividing(HeLa)	18.19	1.01×10^2	4.26×10^2

3.6 HeLa: *C. odrata* (leaves).

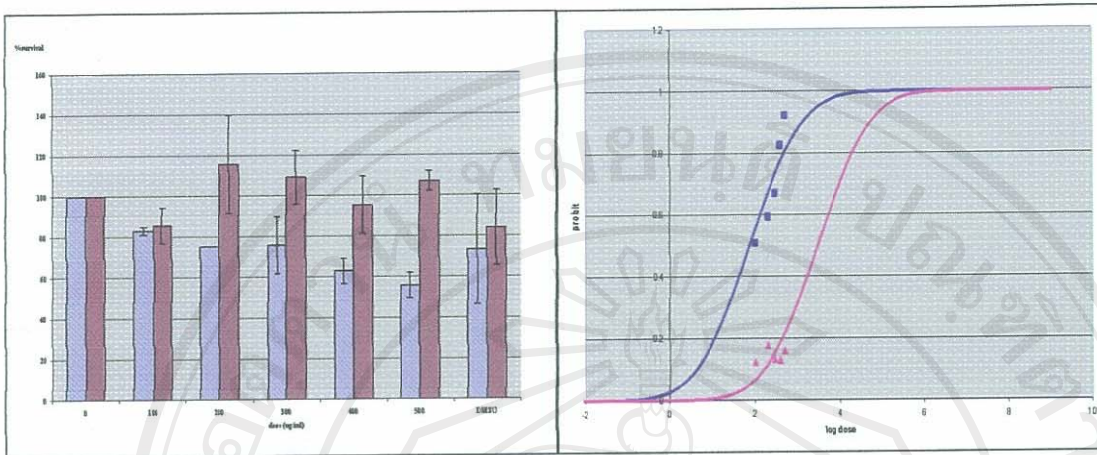


Figure 16 The MTT base cytotoxicity testing of *C. odrata* on the HeLa.

*** PriProbit ver.1.63 ***

ObservMTT and ExpectMTT Frequencies

1. *C. odrata*(lv.)-dividing-HeLa

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	1.0000e+000	-	100	0	0.000	-0.000	0.0000	0.0000
2	1.0000e+002	2.00000	100	17	12.300	4.800	0.1710	0.1230
3	2.0000e+002	2.30103	100	15	21.933	-7.133	0.1480	0.2193
4	3.0000e+002	2.47712	100	24	29.155	-4.855	0.2430	0.2916
5	4.0000e+002	2.60206	100	37	34.872	2.278	0.3715	0.3487
6	5.0000e+002	2.69897	100	44	39.564	4.726	0.4429	0.3956

2. *C. odrata*(lv.)-non-dividing-HeLa

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	1.0000e+000	-	100	0	0.000	-0.000	0.0000	0.0000
2	1.0000e+002	2.00000	100	14	11.702	2.698	0.1440	0.1170
3	2.0000e+002	2.30103	100	0	3.965	-3.965	0.0000	0.0396
4	3.0000e+002	2.47712	100	0	1.853	-1.853	0.0000	0.0185
5	4.0000e+002	2.60206	100	5	1.018	3.782	0.0480	0.0102
6	5.0000e+002	2.69897	100	0	0.619	-0.619	0.0000	0.0062

Pearson Chi-square Test on Sum of Squares

	DF	SS	MS	p
Parallelism	1	54.3323686	54.3323686	0.0000000
Heterogeneity	7	28.9425431	4.1346490	0.0001482
Total	8	83.2749117	10.4093640	0.0000000

Effective Dose Estimates (µg/ml)

	MTT ₂₅	MTT ₅₀	MTT ₇₅
Dividing(HeLa)	2.69×10^2	1.0×10^4	7.58×10^4
Non-dividing(HeLa)	3.54×10^3	1.15×10^7	8.31×10^5

3.7 HeLa: *C. fruticosa* (leaves).

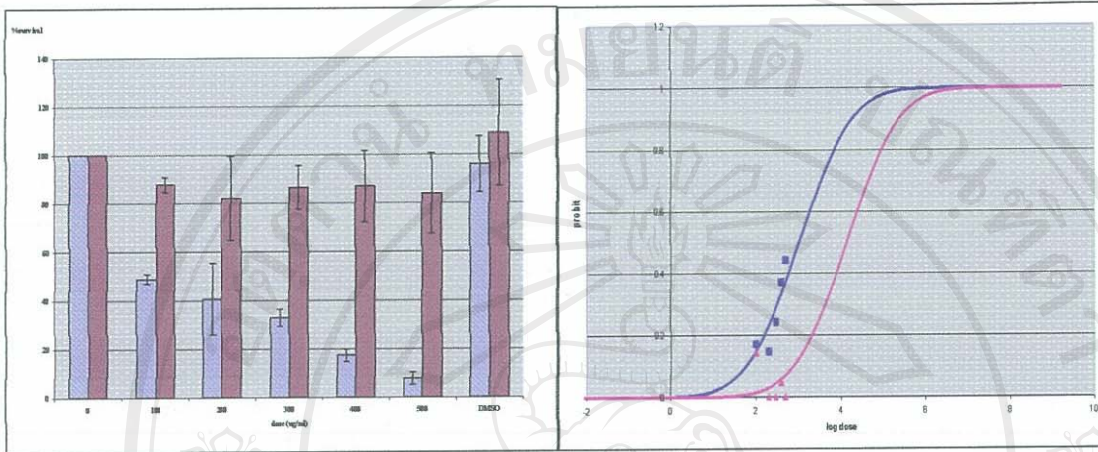


Figure 17 The MTT base cytotoxicity testing of *C. fruticosa* on the HeLa.

*** PriProbit ver.1.63 ***

ObservMTT and ExpectMTT Frequencies

1. *C. fruticosa*(lv.)-dividing-HeLa

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	10.0000e+000	-	100	0	0.000	-0.000	0.0000	0.0000
2	1.0000e+002	2.00000	100	51	45.031	5.969	0.5100	0.4503
3	2.0000e+002	2.30103	100	59	65.105	-5.705	0.5940	0.6511
4	3.0000e+002	2.47712	100	67	75.436	-8.336	0.6710	0.7544
5	4.0000e+002	2.60206	100	83	81.626	0.974	0.8260	0.8163
6	5.0000e+002	2.69897	100	92	85.687	6.613	0.9230	0.8569

2. *C. fruticosa*(lv.)-non-dividing-HeLa

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	10.0000e+000	-	100	0	0.000	-0.000	0.0000	0.0000
2	1.0000e+002	2.00000	100	12	13.585	-1.385	0.1220	0.1358
3	2.0000e+002	2.30103	100	18	14.224	3.576	0.1780	0.1422
4	3.0000e+002	2.47712	100	13	14.607	-1.207	0.1340	0.1461
5	4.0000e+002	2.60206	100	13	14.884	-1.884	0.1300	0.1488
6	5.0000e+002	2.69897	100	16	15.100	0.900	0.1600	0.1510

Pearson Chi-square Test on Sum of Squares

	DF	SS	MS	p
Parallelism	1	17.4473800	17.4473800	0.0000295
Heterogeneity	7	11.9225547	1.7032221	0.1031346
Total	8	29.3699347	3.6712418	0.0002730

Effective Dose Estimates (µg/ml)

	MTT ₂₅	MTT ₅₀	MTT ₇₅
Dividing(HeLa)	19.05	74.90	4.46×10^2
Non-dividing(HeLa)	7.58×10^2	2.86×10^3	1.77×10^5

3.8 HeLa: *M. fruticosum* (leaves).

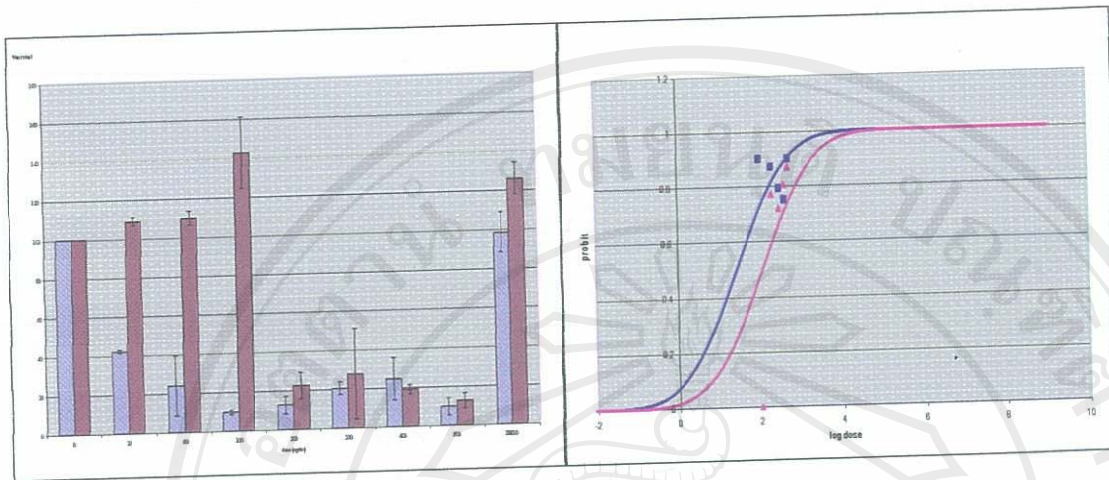


Figure 18 The MTT base cytotoxicity testing of *M. fruticosum* on the HeLa.

*** PriProbit ver.1.63 ***

ObservMTT and ExpectMTT Frequencies

1. LDL_pro(A)

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	10.0000e+000	-	100	0	0.000	-0.000	0.0000	0.0000
2	1.0000e+002	2.00000	100	71	74.606	-3.906	0.7070	0.7461
3	2.0000e+002	2.30103	100	86	80.892	5.508	0.8640	0.8089
4	3.0000e+002	2.47712	100	87	84.081	3.319	0.8740	0.8408
5	4.0000e+002	2.60206	100	83	86.119	-3.219	0.8290	0.8612
6	5.0000e+002	2.69897	100	86	87.572	-1.672	0.8590	0.8757

2. LDL_non(A)

#	Dose	Log(Dose)	n	r.obs	r.exp	Dev.	p.obs	p.exp
1	10.0000e+000	-	100	0	0.000	-0.000	0.0000	0.0000
2	1.0000e+002	2.00000	100	0	0.067	-0.067	0.0000	0.0007
3	2.0000e+002	2.30103	100	8	6.518	1.482	0.0800	0.0652
4	3.0000e+002	2.47712	100	24	30.070	-5.970	0.2410	0.3007
5	4.0000e+002	2.60206	100	64	57.152	7.248	0.6440	0.5715
6	5.0000e+002	2.69897	100	74	76.585	-2.685	0.7390	0.7659

Pearson Chi-square Test on Sum of Squares

	DF	SS	MS	p
Parallelism	1	91.2772624	91.2772624	0.0000000
Heterogeneity	7	9.3852557	1.3407508	0.2261666
Total	8	100.6625180	12.5828148	0.0000000

Effective Dose Estimates (µg/ml)

	MTT ₂₀	MTT ₂₅	MTT ₅₀	MTT ₇₅
Dividing(HeLa)	2.75	4.89	13.90	1.65×10 ²
Non-dividing(HeLa)		29.51	1.54×10 ²	4.46×10 ²

APPENDIX B**INSTRUMENTS AND CHEMICALS****1. General instruments**

1. Autoclave (SANYO type MLS-3780)
2. Centrifuge (KOKUSAN type H-103N)
3. Compound microscope (OLYMPUS type BH-2)
4. CO₂ incubator (THERMO FORMA)
5. Freezer -20 °C (SONGSERM INTERCOOL)
6. Freezer -80 °C (SANYO ULTRA LOW type MDF-792)
7. Hot air oven (COLOMBO 6/64-69)
8. Inverted microscope (OLYMPUS type CK-40)
9. Laminar flow hood (type TUV2)
10. Liquid N₂ tank (AIR LIQUIDE GT40)
11. Lyophilizer (CHRIST ALPHA-4)
12. Microplate reader (ANTHOS 2010)
13. pH meter (METTLER type TOLEDO 320)

2. Steriled instruments

1. Auto pipette (GILSON P2, P20, P100 and P1,000)
2. Centrifuge tube 15 ml. (TPP)
3. Cover slip 1.0 cm²
4. Cryotube (TPP)
5. Cultured dish (1.5 cm.) (NUNC)
6. Cultured flask (10, 25 and 75 cm²) (TPP)
7. Duran bottles (100, 250 and 500 ml.)
8. Eppendorf tube
9. Gauze
10. Multichannel pipette (BIOHIT)
11. Pasteur pipette

12. Petri's dish
13. Disposable syringes (1 and 20 ml.) (NIPRO)
14. Syring filter 0.2 μm .(PALL)
15. Vacuum filter (NUNC)
16. Volumetric pipette
17. 96 well-plate (COSTAR)

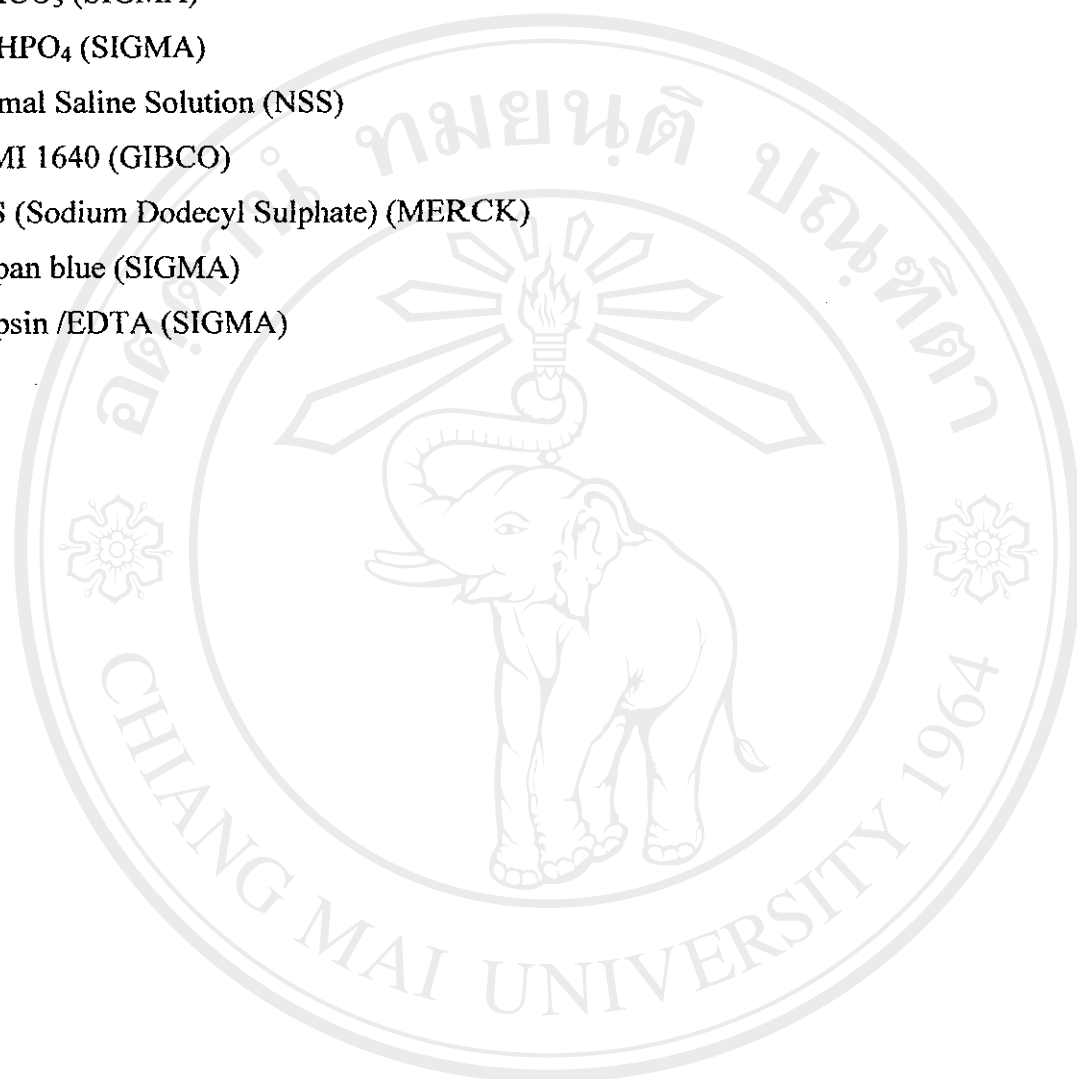
3. Non-sterile instruments

1. Aspiration pump
2. Aluminium foil
3. Beaker (50, 250, 500 and 1,000 ml.)
4. Hand held cell counter
5. Cryogenic storage vessel
6. Forcep
7. Haemocytometer and cover slip (HAWKSLEY)
8. Magnetic stirrer and magnetic bar
9. Parafilm
10. Slide and cover slip
11. Stage and Ocular micrometer
12. Volumetric flask

4. Chemicals

1. Ethanol 95% (MERCK)
2. Colcemid 10 $\mu\text{g}/\text{ml}$ (SIGMA)
3. Deionize distilled water
4. DMSO (Dimethyl Sulfoxide) (SIGMA)
5. Fetal Bovine Serum (FBS) (BioWEST)
6. Giemsa stain (SIGMA)
7. Gracial acetic acid (MERCK)
8. KCl (SIGMA)
9. KH_2PO_4 (SIGMA)
10. Methanol (MERCK)

11. MTT dye (SIGMA)
12. NaCl (SIGMA)
13. NaHCO₃ (SIGMA)
14. Na₂HPO₄ (SIGMA)
15. Normal Saline Solution (NSS)
16. RPMI 1640 (GIBCO)
17. SDS (Sodium Dodecyl Sulphate) (MERCK)
18. Trypan blue (SIGMA)
19. Trypsin /EDTA (SIGMA)



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