Lampiran 1

Surat keterangan lolos etik

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SURAT KETERANGAN LOLOS ETIK

Nomor: 13/Ethical Clearance/FKGUI/X/2008

Setelah membaca dan mempelajari usulan penelitian atas nama:

1. Arismunandar NPM: 0205000087
2. Medwin Setia NPM: 0205000575

Judul: "Uji sitotoksisitas chitosan terhadap sel kanker HSC-4, HAT-7, dan A-549".

Dengan ini Komisi Etik Penelitian Fakultas Kedokteran Gigi Universitas Indonesia menerangkan bahwa penelitian tersebut di atas dinyatakan lolos etik.

Jakarta, 7 Oktober 2008

Mengetahui:
Wakil Dekan FKGUI,

Prof.Dr.drg. M. Suharsini Soetopo, SU,Sp.KGA
NIP. 130 818 226

Ketua Komisi Etik Penelitian FKGUI,

drg. Anton Rahardjo, MKM, PhD
NIP. 131 289 206

Surat keterangan mengenai kitosan dari BATAN.

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Subject: Re: Riset
From: baskara@batan.go.id
Date: Thu, April 17, 2008 2:46 pm
To: endang04@ui.edu
Priority: Normal
Options: View Full Header | View Printable Version | Download this as a file

>Assalam'alaikum Wr.Wb.

Dr. Endang, senag sekali mendengar beritanya, semoga penelitian yang akan kita lakukan ini betul-betul bermanfaat untuk kemajuan IPTEK dan dapat menyejahterkan masyarakat Indonesia.
Mengenai spesifikasi dari chitosan yang dihasilkan batan dapat saya jelaskan sebagai berikut:
- Derajat asetilasi : 72-82
- BM : 7000 - 8000
- Kelarutan dengan Asam Asetat 1% : 0,02 gr/ml
- Kadar air : < 10%

Bersama ini pula saya kirimkan contoh MoU (Draf) antara PATIR BATAN dengan FK UNPAD sebagai contoh MoU yang akan kita buat
Atas perhatian dan kerjasamanya saya mengucapka terima kasih

Wassalamu'alaikum Wr. Wb.

Lampiran 3

Uji normalitas kelompok Perlakuan sel HSC-4

		Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Konsentrasi Chitosan	Statistic	df	Sig.	Statistic	df	Sig.
Viabilitas Sel	0%	.334	5	.070	.758	5	.036
	0.0005%	.164	5	.200(*)	.989	5	.975
	0.0025%	.271	5	.200(*)	.867	5	.256
	0.005%	.243	5	.200(*)	.874	5	.284
	0.25%	.350	5	.045	.802	5	.084
	0.5%	.209	5	.200(*)	.916	5	.503

* This is a lower bound of the true significance.

a Lilliefors Significance Correction

Uji homogenitas kelompok Perlakuan sel HSC-4

		Levene Statistic	df1	df2	Sig.
Viabilitas Sel	Based on Mean	20.761	5	24	.000
	Based on Median	1.941	5	24	.125
	Based on Median and with adjusted df	1.941	5	5.894	.223
	Based on trimmed mean	17.940	5	24	.000

Lampiran 4

Uji normalitas kelompok Perlakuan sel A-549

		Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Konsentrasi Chitosan	Statistic	df	Sig.	Statistic	df	Sig.
Viabilitas Sel	0%	.202	5	.200(*)	.941	5	.672
	0.0005%	.200	5	.200(*)	.902	5	.419
	0.0025%	.252	5	.200(*)	.872	5	.275
	0.005%	.221	5	.200(*)	.969	5	.866
	0.25%	.298	5	.167	.864	5	.242
	0.5%	.275	5	.200(*)	.875	5	.286

* This is a lower bound of the true significance.

a Lilliefors Significance Correction

Uji homogenitas kelompok Perlakuan sel A-549

		Levene Statistic	df1	df2	Sig.
Viabilitas Sel	Based on Mean	6.764	5	24	.000
	Based on Median	4.202	5	24	.007
	Based on Median and with adjusted df	4.202	5	11.808	.020
	Based on trimmed mean	6.451	5	24	.001

a Jenis Sel = A-549

Lampiran 5

Uji normalitas kelompok konsentrasi Kitosan 0%

		Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Jenis Sel	Statistic	df	Sig.	Statistic	df	Sig.
Viabilitas Sel	HSC-4	.334	5	.070	.758	5	.036
	A-549	.202	5	.200(*)	.941	5	.672

* This is a lower bound of the true significance.

a Lilliefors Significance Correction

Uji homogenitas kelompok konsentrasi Kitosan 0%

		Levene Statistic	df1	df2	Sig.
Viabilitas Sel	Based on Mean	.761	1	8	.408
	Based on Median	.032	1	8	.862
	Based on Median and with adjusted df	.032	1	6.092	.864
	Based on trimmed mean	.708	1	8	.424

Lampiran 6

Uji normalitas kelompok konsentrasi Kitosan 0.0005%

		Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Jenis Sel	Statistic	df	Sig.	Statistic	df	Sig.
Viabilitas Sel	HSC-4	.164	5	.200(*)	.989	5	.975
	A-549	.200	5	.200(*)	.902	5	.419

* This is a lower bound of the true significance.

a Lilliefors Significance Correction

Uji homogenitas kelompok konsentrasi Kitosan 0,0005%

		Levene Statistic	df1	df2	Sig.
Viabilitas Sel	Based on Mean	18.787	1	8	.002
	Based on Median	7.706	1	8	.024
	Based on Median and with adjusted df	7.706	1	4.143	.048
	Based on trimmed mean	17.803	1	8	.003

Lampiran 7

Uji normalitas kelompok konsentrasi Kitosan 0.0025%

		Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Jenis Sel	Statistic	df	Sig.	Statistic	df	Sig.
Viabilitas Sel	HSC-4	.271	5	.200(*)	.867	5	.256
	A-549	.252	5	.200(*)	.872	5	.275

* This is a lower bound of the true significance.

a Lilliefors Significance Correction

Uji homogenitas kelompok konsentrasi Kitosan 0,0025%

		Levene Statistic	df1	df2	Sig.
Viabilitas Sel	Based on Mean	.526	1	8	.489
	Based on Median	.197	1	8	.669
	Based on Median and with adjusted df	.197	1	6.025	.673
	Based on trimmed mean	.473	1	8	.511

Lampiran 8

Uji normalitas kelompok konsentrasi Kitosan 0.005%

		Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Jenis Sel	Statistic	df	Sig.	Statistic	df	Sig.
Viabilitas Sel	HSC-4	.243	5	.200(*)	.874	5	.284
	A-549	.221	5	.200(*)	.969	5	.866

* This is a lower bound of the true significance.

a Lilliefors Significance Correction

Uji homogenitas kelompok konsentrasi Kitosan 0.005%

		Levene Statistic	df1	df2	Sig.
Viabilitas Sel	Based on Mean	11.354	1	8	.010
	Based on Median	3.256	1	8	.109
	Based on Median and with adjusted df	3.256	1	4.614	.136
	Based on trimmed mean	10.306	1	8	.012

Lampiran 9

Uji normalitas kelompok konsentrasi Kitosan 0.25%

		Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Jenis Sel	Statistic	df	Sig.	Statistic	df	Sig.
Viabilitas Sel	HSC-4	.350	5	.045	.802	5	.084
	A-549	.298	5	.167	.864	5	.242

a Lilliefors Significance Correction

Uji homogenitas kelompok konsentrasi Kitosan 0.25%

		Levene Statistic	df1	df2	Sig.
Viabilitas Sel	Based on Mean	1.170	1	8	.311
	Based on Median	.397	1	8	.546
	Based on Median and with adjusted df	.397	1	5.407	.554
	Based on trimmed mean	.861	1	8	.381

a Konsentrasi Chitosan = 0.25%

Lampiran 10

Uji normalitas kelompok konsentrasi Kitosan 0.5%

		Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Jenis Sel	Statistic	df	Sig.	Statistic	df	Sig.
Viabilitas Sel	HSC-4	.209	5	.200(*)	.916	5	.503
	A-549	.275	5	.200(*)	.875	5	.286

* This is a lower bound of the true significance.

a Lilliefors Significance Correction

Uji homogenitas kelompok konsentrasi Kitosan 0.5%

		Levene Statistic	df1	df2	Sig.
Viabilitas Sel	Based on Mean	.302	1	8	.598
	Based on Median	.015	1	8	.904
	Based on Median and with adjusted df	.015	1	6.392	.905
	Based on trimmed mean	.270	1	8	.618

Uji Oneway ANOVA kelompok sel HSC-4

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	38.002	5	7.600	1542.836	.000
Within Groups	.118	24	.005		
Total	38.120	29			

Uji Oneway ANOVA kelompok sel A-549

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	24.867	5	4.973	790.863	.000
Within Groups	.151	24	.006		
Total	25.018	29			

a Jenis Sel = A-549

Uji Post HOC Bonferroni kelompok sel HSC-4

(I) Konsentrasi Chitosan	(J) Konsentrasi Chitosan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
0%	0.0005%	-.173600(*)	.044390	.010	-.31824	-.02896
	0.0025%	-.259400(*)	.044390	.000	-.40404	-.11476
	0.005%	-.106800	.044390	.363	-.25144	.03784
	0.25%	2.220000(*)	.044390	.000	2.07536	2.36464
	0.5%	2.273400(*)	.044390	.000	2.12876	2.41804
0.0005%	0%	.173600(*)	.044390	.010	.02896	.31824
	0.0025%	-.085800	.044390	.977	-.23044	.05884
	0.005%	.066800	.044390	1.000	-.07784	.21144
	0.25%	2.393600(*)	.044390	.000	2.24896	2.53824
	0.5%	2.447000(*)	.044390	.000	2.30236	2.59164
0.0025%	0%	.259400(*)	.044390	.000	.11476	.40404
	0.0005%	.085800	.044390	.977	-.05884	.23044
	0.005%	.152600(*)	.044390	.032	.00796	.29724
	0.25%	2.479400(*)	.044390	.000	2.33476	2.62404
	0.5%	2.532800(*)	.044390	.000	2.38816	2.67744
0.005%	0%	.106800	.044390	.363	-.03784	.25144
	0.0005%	-.066800	.044390	1.000	-.21144	.07784
	0.0025%	-.152600(*)	.044390	.032	-.29724	-.00796
	0.25%	2.326800(*)	.044390	.000	2.18216	2.47144
	0.5%	2.380200(*)	.044390	.000	2.23556	2.52484
0.25%	0%	-2.220000(*)	.044390	.000	-2.36464	-2.07536
	0.0005%	-2.393600(*)	.044390	.000	-2.53824	-2.24896
	0.0025%	-2.479400(*)	.044390	.000	-2.62404	-2.33476
	0.005%	-2.326800(*)	.044390	.000	-2.47144	-2.18216
	0.5%	.053400	.044390	1.000	-.09124	.19804
0.5%	0%	-2.273400(*)	.044390	.000	-2.41804	-2.12876
	0.0005%	-2.447000(*)	.044390	.000	-2.59164	-2.30236
	0.0025%	-2.532800(*)	.044390	.000	-2.67744	-2.38816
	0.005%	-2.380200(*)	.044390	.000	-2.52484	-2.23556
	0.25%	-.053400	.044390	1.000	-.19804	.09124

* The mean difference is significant at the .05 level.

Lanjutan

Uji Post HOC Bonferroni kelompok sel A-549

(I) Konsentrasi Chitosan	(J) Konsentrasi Chitosan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
0%	0.0005%	-.303400(*)	.050154	.000	-.46682	-.13998
	0.0025%	-.348200(*)	.050154	.000	-.51162	-.18478
	0.005%	-.455400(*)	.050154	.000	-.61882	-.29198
	0.25%	1.642400(*)	.050154	.000	1.47898	1.80582
	0.5%	1.622000(*)	.050154	.000	1.45858	1.78542
0.0005%	0%	.303400(*)	.050154	.000	.13998	.46682
	0.0025%	-.044800	.050154	1.000	-.20822	.11862
	0.005%	-.152000	.050154	.087	-.31542	.01142
	0.25%	1.945800(*)	.050154	.000	1.78238	2.10922
	0.5%	1.925400(*)	.050154	.000	1.76198	2.08882
0.0025%	0%	.348200(*)	.050154	.000	.18478	.51162
	0.0005%	.044800	.050154	1.000	-.11862	.20822
	0.005%	-.107200	.050154	.644	-.27062	.05622
	0.25%	1.990600(*)	.050154	.000	1.82718	2.15402
	0.5%	1.970200(*)	.050154	.000	1.80678	2.13362
0.005%	0%	.455400(*)	.050154	.000	.29198	.61882
	0.0005%	.152000	.050154	.087	-.01142	.31542
	0.0025%	.107200	.050154	.644	-.05622	.27062
	0.25%	2.097800(*)	.050154	.000	1.93438	2.26122
	0.5%	2.077400(*)	.050154	.000	1.91398	2.24082
0.25%	0%	-1.642400(*)	.050154	.000	-1.80582	-1.47898
	0.0005%	-1.945800(*)	.050154	.000	-2.10922	-1.78238
	0.0025%	-1.990600(*)	.050154	.000	-2.15402	-1.82718
	0.005%	-2.097800(*)	.050154	.000	-2.26122	-1.93438
	0.5%	-.020400	.050154	1.000	-.18382	.14302
0.5%	0%	-1.622000(*)	.050154	.000	-1.78542	-1.45858
	0.0005%	-1.925400(*)	.050154	.000	-2.08882	-1.76198
	0.0025%	-1.970200(*)	.050154	.000	-2.13362	-1.80678
	0.005%	-2.077400(*)	.050154	.000	-2.24082	-1.91398
	0.25%	.020400	.050154	1.000	-.14302	.18382

* The mean difference is significant at the .05 level.

Lampiran 13

Uji T kelompok konsentrasi 0%

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Viabilitas Sel	Equal variances assumed	.761	.408	5.256	8	.001	.465600	.088586	.261321	.669879
	Equal variances not assumed			5.256	7.876	.001	.465600	.088586	.260758	.670442

Lampiran 14

Uji T kelompok konsentrasi 0.0005%

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Viabilitas Sel	Equal variances assumed	18.787	.002	5.819	8	.000	.335800	.057709	.202723	.468877
	Equal variances not assumed			5.819	4.107	.004	.335800	.057709	.177208	.494392

Lampiran 15

Uji T kelompok konsentrasi 0.0025%

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Viabilitas Sel	Equal variances assumed	.526	.489	13.255	8	.000	.376800	.028427	.311246	.442354
	Equal variances not assumed			13.255	6.505	.000	.376800	.028427	.308529	.445071

Lampiran 16

Uji T kelompok konsentrasi 0.005%

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Viabilitas Sel	Equal variances assumed	11.354	.010	4.255	8	.003	.117000	.027495	.053596	.180404
	Equal variances not assumed			4.255	4.585	.010	.117000	.027495	.044351	.189649

Lampiran 17

Uji T kelompok konsentrasi 0.25%

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Viabilitas Sel	Equal variances assumed	1.170	.311	-4.758	8	.001	-.112000	.023539	-.166282	-.057718
	Equal variances not assumed			-4.758	5.491	.004	-.112000	.023539	-.170917	-.053083

Lampiran 18

Uji T kelompok konsentrasi 0.5%

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Viabilitas Sel	Equal variances assumed	.302	.598	-14.610	8	.000	-.185800	.012717	-.215125	-.156475
	Equal variances not assumed			-14.610	7.904	.000	-.185800	.012717	-.215187	-.156413

Lampiran 19

Nilai absorbansi tiap sample sel HSC-4 serta rata-ratanya.

	HSC 4					
	0.0005%	0.0025%	0.0050%	0.2500%	0.5000%	Kontrol
A	3.003	3.078	2.906	0.589	0.555	2.733
B	3.017	3.086	2.907	0.608	0.56	2.736
C	3.026	3.095	2.935	0.616	0.578	2.757
D	3.029	3.138	2.995	0.624	0.592	2.996
E	3.043	3.15	3.041	0.713	0.598	3.028
Rata-rata	3.0236	3.1094	2.9568	0.63	0.5766	2.85

Lampiran 20

Nilai absorbansi tiap sample sel A-549 serta rata-ratanya.

	A549					
	0.0005%	0.0025%	0.0050%	0.2500%	0.5000%	Kontrol
A	2.561	2.642	2.818	0.717	0.734	2.251
B	2.58	2.726	2.833	0.722	0.746	2.273
C	2.657	2.753	2.843	0.753	0.772	2.379
D	2.79	2.758	2.843	0.753	0.778	2.45
E	2.851	2.784	2.862	0.765	0.782	2.569
Rata-rata	2.6878	2.7326	2.8398	0.742	0.7624	2.3844

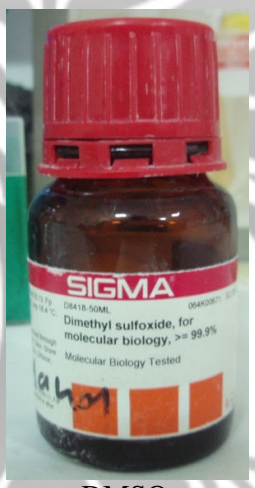
Gambar dokumentasi

Botol Tablet PBS

D-MEM

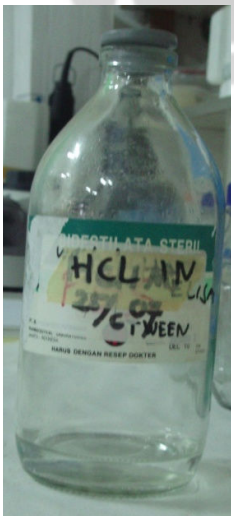
Penicilline Streptomycine

Microplate Reader



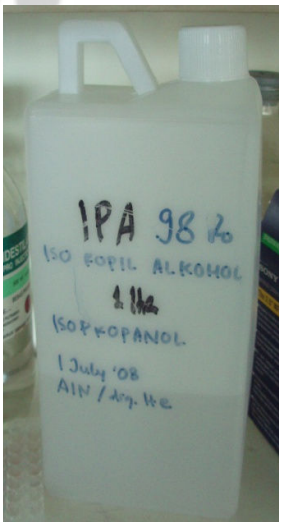
DMSO

Penghitungan berat bubuk MTT



HCl 1 N

FBS



Ispropil Alkohol

Foto bersama dosen pembimbing setelah sidang