

BAB 5

SIMPULAN

5.1. Simpulan

Senyawa O-(fenilalanil)parasetamol mempunyai aktivitas antipiretik pada mencit (*Mus musculus*) dan aktivitasnya tidak berbeda jika dibandingkan dengan aktivitas parasetamol.

5.2. Alur Penelitian Selanjutnya

Dilakukan studi lebih lanjut untuk mendapatkan data serta informasi yang lebih lengkap, baik dari aspek farmakodinamika, farmakokinetika dan efek samping hepatotoksik bila dibandingkan dengan parasetamol, untuk dapat dikembangkan lebih lanjut sebagai calon obat baru.

DAFTAR PUSTAKA

Anonim, 2002, **B-Braun Activita ET Ear Thermometer Operation Manual**, B-Braun, p.4-18

Anonim, **Martindale The Extra Pharmacopoeia 36th**, 2009, The Pharmaceutical Press, London, hal 108

Furniss, B.S., Hannaford, A.J., Smith, P.W.G., Tatchell, A.R., 1989, **Vogel's Textbook of Practical Organic Chemistry**, 5th ed, Longman Scientific & Technical, New York, p. 237-240

Ganong, W.F., 2003, **Buku Ajar: Fisiologi Kedokteran, Ed. 20**, ed. Widjajakusumah, H.M.D., Penerbit Buku Kedokteran EGC, Jakarta, hal. 245-246

Goodman, L. S., Gilman, A., 2006, **Goodman & Gilman's The Pharmacological: Basis of Therapeutics 11th ed**, Laurence L. Brunton, ed; associate eds, John S. Lazo, Ketih L. Parker, McGraw-Hill Medical Publishing Division: USA, p. 681

Guyton, A.C., Hall, J.E., 2008, **Buku Ajar Fisiologi Kedokteran, edisi 11** (Irawati, Penerjemah), Penerbit Buku Kedokteran EGC, Jakarta, p. 941-47

Guyton, A.C., Hall, J.E., 2010, **Guyton and Hall Textbook of Medical Physiology, 12th ed**, Saunders, an imprint of Elsevier Inc, Philadelphia, p. 875-876

Guyton, A.C., 1997, **Buku Ajar Fisiologi Kedokteran edisi 9**, (Dharma, A., dan Lukmanto,penerjemah), EGC, Jakarta, hal. 1142-1150.

Kang, J. Y.,Khan, M. N. Park N. H., Cho, J. Y., Lee, M. C. Fujii, H., Hong, Y. K., 2008, Antipyretic, Analgesic, and Anti-inflammatory Activities of the Seaweed *Sargassum fulvellum* and *Sargassum thunbergii* in Mice, **J. Ethnopharmacol**, **116 (1)**, p.187-190

Katzung, B.G., 2007, **Basic & Clinical Pharmacology**, 10th ed, The McGraw-Hill Companies, San Francisco, p. 573-99

Laurence & Bacarach, 1964, **Evaluation of Drug Activities, Pharmacometrics, Vol. I**, Academic Press, London and New York, p.161

Mutalik, S., *et al*, 2003, Antipyretic and Analgesic Effect of Leaves of *Solanum Melongena* Linn. in Rodents, **Indian Journal of Pharmacology**, **35**, p. 312-315

Rarafatullah, S., Alqasoumi, S., Galal, A., Gamal, A., Al-Yaha, M., 2009, Antinociceptive, Anti-Inflammatory and Antipyretic Effects of a Flavonoidal Mixture Leaf Surface of *Rhus Retinorrhaea*, **Farmacia**, vol **57**, **3**, p. 346-354

RJ, A.I., 2010, **Uji Aktivitas Antipiretik dan Antiinflamasi Senyawa Baru Asam O-(4-metoksibenzoil) Salisilat pada Tikus Putih Jantan Galur Wistar**, Fakultas Farmasi Unika Widya Mandala, Surabaya, p. 11-12, 14

Roach, S., 2004, **Introductory Clinical Pharmacology**, 7th ed, Lippincott Williams & Wilkins, The University of Michigan, p. 153-58

Salim, R.E., 2012, **Sintesis O-(fenilalanil)parasetamol dan Uji Aktivitas Analgesik terhadap Mencit (Mus Musculus) dengan Metode Hot Plate**, Fakultas Farmasi Unika Widya Mandala, Surabaya, p. 38-39

Siswandono., Soekarjo, B., 1995, **Kimia Medisinal**, Airlangga, edisi 1, University Press, Surabaya, p. 359

Siswandono., Soekarjo, B., 2000, **Kimia Medisinal**, Airlangga, edisi 2, University Press, Surabaya, p. 283-92

Skoog, D.A., West, D.M., Holler, F.J., Crouch, S.R., **Fundamental of Analytical Chemistry**, 8th ed, Brooks/Cole-Thomson Learning, United States of America, p. 1001-1002

Solomons, T.W.G., Fryhle, C.B., **Organic Chemistry**, 10th ed, John Wiley & Sons Inc., United States of America, p. 74

Suckow, M. A., Danneman, P., Brayton, C., 2001, **The Laboratory Mouse**, CRC Press LLC, Florida, p. 6, 9, 22,44-45, 120-125

Vogel, H.G (ed)., 2008, **Drug Discovery and Evaluation: Pharmacological Assay**, edisi 3, Springer Reference, Jerman, p. 1030-43

LAMPIRAN A

HASIL PENGAMATAN PENURUNAN SUHU MENCIT PADA KELOMPOK SENYAWA UJI O-(FENILALANIL)PARASETAMOL DAN SENYAWA PEMBANDING PARASETAMOL

Senyawa Pembanding Parasetamol 25 mg/kg BB

Mencit	Suhu	T (°C)										Rerata Suhu	SD	Penurunan Suhu
	Normal	0	15	30	45	60	75	90	105	120				
1	35,8	37,8	36,9	36,8	36,3	35,9	36,7	36,8	36,7	37,0	36,64	0,36	1,16	
2	35,5	37,5	37,5	36,7	36,6	35,8	36,3	36,2	36,6	36,3	36,5	0,50	1,00	
3	36,0	38,0	37,9	37,5	36,8	36,1	36,2	36,4	36,5	36,7	36,76	0,63	1,24	
4	35,9	37,9	37,7	37,5	36,8	36,3	36,1	36,1	36,2	36,2	36,61	0,65	1,29	
5	36,2	38,2	37,7	37,5	37,0	36,8	36,6	36,9	37,0	37,3	37,1	0,37	1,10	

Senyawa Pembanding Parasetamol 50 mg/kg BB

Mencit	Suhu	T (°C)										Rerata Suhu	SD	Penurunan Suhu
	Normal	0	15	30	45	60	75	90	105	120				
1	35,7	37,7	37,5	37,2	36,8	36,0	36,1	36,2	36,2	36,3	36,54	0,56	1,16	
2	35,8	37,8	37,6	37,5	36,2	36,4	36,1	36,2	36,2	36,0	36,53	0,64	1,28	
3	35,5	37,5	37,3	37,3	36,8	36,6	36,2	36,0	35,9	35,7	36,48	0,62	1,03	
4	35,9	37,9	37,7	37,0	36,6	36,2	36,4	36,3	36,7	36,6	36,69	0,48	1,21	
5	36,2	38,2	37,9	37,8	37,2	36,4	36,8	36,4	36,4	36,0	36,86	0,70	1,34	

Senyawa Pembanding Parasetamol 100 mg/kg BB

Mencit	Suhu	T (°C)										Rerata Suhu	SD	Penurunan Suhu
	Normal	0	15	30	45	60	75	90	105	120				
1	35,9	37,9	37,3	37,1	36,4	36,0	36,1	36,2	36,2	36,2	36,44	0,49	1,46	
2	35,8	37,8	37,2	36,9	36,2	36,4	36,2	36,2	36,0	35,8	36,36	0,47	1,44	
3	35,7	37,7	36,8	36,4	35,6	35,9	36,2	36,0	36,2	35,6	36,09	0,41	1,61	
4	36,1	38,1	36,9	36,4	36,5	36,1	36,4	36,0	35,9	36,4	36,33	0,32	1,78	
5	35,9	37,9	36,9	36,3	36,0	36,3	36,0	35,7	35,9	36,0	36,14	0,37	1,76	

Senyawa Pembanding Parasetamol 200 mg/kg BB

Mencit	Suhu	T (°C)										Rerata Suhu	SD	Penurunan Suhu
	Normal	0	15	30	45	60	75	90	105	120				
1	36,1	38,1	37,3	36,2	36,2	35,8	35,8	35,9	35,7	35,7	36,08	0,53	2,03	
2	35,9	38,0	37,0	36,8	36,4	36,2	36,2	35,8	35,9	35,7	36,25	0,47	1,75	
3	35,7	37,7	36,7	36,1	35,7	35,8	36,0	35,9	35,7	35,7	35,95	0,34	1,75	
4	36,3	38,3	37,6	36,9	36,0	35,9	36,2	36,1	36,1	35,9	36,34	0,60	1,96	
5	36,1	38,1	37,8	36,7	36,6	36,2	35,9	36,3	35,8	35,9	36,40	0,65	1,70	

Senyawa Uji O-(fenilalanil)parasetamol 25 mg/kg BB

Mencit	Suhu	T (°C)										Rerata Suhu	SD	Penurunan Suhu
	Normal	0	15	30	45	60	75	90	105	120				
1	36,0	38,0	37,2	36,6	36,7	36,8	36,3	36,7	36,3	36,2	36,6	0,56	1,40	
2	35,6	37,6	37,0	36,5	36,8	36,7	36,3	36,3	36,5	36,3	36,6	0,43	1,05	
3	35,8	37,8	37,1	36,9	36,8	37,0	36,4	36,3	36,1	36,2	36,6	0,54	1,20	
4	35,7	37,7	37,3	37,1	36,7	36,7	36,3	36,2	35,9	36,3	36,6	0,58	1,14	
5	35,9	37,9	37,4	37,0	36,8	36,3	36,2	36,1	36,1	35,9	36,5	0,69	1,43	

Senyawa Uji O-(fenilalanil)parasetamol 50 mg/kg BB

Mencit	Suhu	T (°C)										Rerata Suhu	SD	Penurunan Suhu
	Normal	0	15	30	45	60	75	90	105	120				
1	36,0	38,0	37,2	37,0	36,7	36,5	36,3	36,2	36,4	36,4	36,59	0,57	1,41	
2	35,9	37,9	37,3	37,1	36,8	37,0	36,1	36,2	36,3	36,3	36,64	0,61	1,26	
3	36,0	38,0	37,0	37,1	36,9	36,4	36,3	36,3	36,1	35,9	36,50	0,65	1,50	
4	35,7	37,7	37,0	36,8	36,3	36,3	36,2	36,3	36,1	36,0	36,38	0,55	1,33	
5	35,8	37,8	37,2	37,1	36,6	36,4	36,5	36,1	36,2	36,1	36,53	0,58	1,27	

Senyawa Uji O-(fenilalanil)parasetamol 100 mg/kg BB

Mencit	Suhu	T (°C)										Rerata Suhu	SD	Penurunan Suhu
	Normal	0	15	30	45	60	75	90	105	120				
1	36,0	38,0	37,2	36,6	36,2	36,0	35,9	36,1	36,1	36,1	36,28	0,70	1,73	
2	35,7	37,7	36,6	36,5	36,1	36,0	36,0	35,9	35,5	35,7	36,04	0,65	1,66	
3	35,9	37,9	37,1	36,6	36,4	36,1	35,9	35,7	36,1	36,0	36,24	0,69	1,66	
4	35,8	37,8	36,6	36,7	36,0	36,2	36,1	35,9	36,0	36,0	36,19	0,61	1,61	
5	36,1	38,1	37,1	36,8	36,3	36,0	36,2	36,1	36,2	35,9	36,33	0,71	1,78	

Senyawa Uji O-(fenilalanil)parasetamol 200 mg/kg BB

Mencit	Suhu	T (°C)										Rerata	SD	Penurunan
	Normal	0	15	30	45	60	75	90	105	120	Suhu			
1	35,7	37,7	36,8	36,5	36,6	36,0	35,6	35,7	36,0	35,8	36,13	0,67	1,58	
2	36,0	38,0	36,3	36,1	35,7	35,6	35,7	35,9	35,7	35,7	35,84	0,76	2,16	
3	36,1	38,1	36,1	36,2	36,4	35,9	35,8	35,9	35,6	35,8	35,97	0,79	2,13	
4	35,8	37,8	36,3	36,2	35,7	35,9	35,9	36,0	36,0	36,1	36,01	0,62	1,79	
5	35,8	37,8	36,5	36,4	35,8	35,8	36,0	36,1	36,2	35,9	36,09	0,62	1,71	

LAMPIRAN B

HASIL UJI ONE WAY ANOVA DAN UJI HSD PENURUNAN SUHU TUBUH MENCIT ANTARA SENYAWA UJI O- (FENILALANIL)PARASETAMOL DENGAN SENYAWA PEMBANDING PARASETAMOL

ANOVA

Penurunan_Suhu

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	12.162	10	1.216	60.758	.000
Within Groups	.881	44	.020		
Total	13.043	54			

Multiple Comparisons

Penurunan_Suhu

Tukey HSD

		Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
(I) senyawa	(J) senyawa				Lower Bound	Upper Bound
Kontrol	parasetamol 12.5 mg/kg BB	.86200*	.08948	.000	.5584	1.1656
	parasetamol 25 mg/kg BB	1.05000*	.08948	.000	.7464	1.3536

	parasetamol 50 mg/kg BB	1.15200*	.08948	.000	.8484	1.4556
	parasetamol 100 mg/kg BB	1.50000*	.08948	.000	1.1964	1.8036
	parasetamol 200 mg/kg BB	1.56800*	.08948	.000	1.2644	1.8716
	O-fenilalanil parasetamol 12.5 mg/kg BB	.75000*	.08948	.000	.4464	1.0536
	O-fenilalanil parasetamol 25 mg/kg BB	1.21450*	.08948	.000	.9109	1.5181
	O-fenilalanil parasetamol 50 mg/kg BB	1.24700*	.08948	.000	.9434	1.5506
	O-fenilalanil parasetamol 100 mg/kg BB	1.55950*	.08948	.000	1.2559	1.8631
	O-fenilalanil parasetamol 200 mg/kg BB	1.76522*	.08948	.000	1.4616	2.0688
	parasetamol 12.5 mg/kg BB	-.86200*	.08948	.000	-1.1656	-.5584
	parasetamol 25 mg/kg BB	.18800	.08948	.583	-.1156	.4916
	parasetamol 50 mg/kg BB	.29000	.08948	.073	-.0136	.5936

	parasetamol 100 mg/kg BB	.63800*	.08948	.000	.3344	.9416
	parasetamol 200 mg/kg BB	.70600*	.08948	.000	.4024	1.0096
	O-fenilalanil parasetamol 12.5 mg/kg BB	-.11200	.08948	.972	-.4156	.1916
	O-fenilalanil parasetamol 25 mg/kg BB	.35250*	.08948	.012	.0489	.6561
	O-fenilalanil parasetamol 50 mg/kg BB	.38500*	.08948	.004	.0814	.6886
	O-fenilalanil parasetamol 100 mg/kg BB	.69750*	.08948	.000	.3939	1.0011
	O-fenilalanil parasetamol 200 mg/kg BB	.90322*	.08948	.000	.5996	1.2068
parasetamol 25 mg/kg BB	Kontrol	-1.05000*	.08948	.000	-1.3536	-.7464
	parasetamol 12.5 mg/kg BB	-.18800	.08948	.583	-.4916	.1156
	parasetamol 50 mg/kg BB	.10200	.08948	.986	-.2016	.4056
	parasetamol 100 mg/kg BB	.45000*	.08948	.000	.1464	.7536

parasetamol 200 mg/kg BB	.51800*	.08948	.000	.2144	.8216
O-fenilalanil parasetamol 12.5 mg/kg BB	-.30000	.08948	.055	-.6036	.0036
O-fenilalanil parasetamol 25 mg/kg BB	.16450	.08948	.751	-.1391	.4681
O-fenilalanil parasetamol 50 mg/kg BB	.19700	.08948	.516	-.1066	.5006
O-fenilalanil parasetamol 100 mg/kg BB	.50950*	.08948	.000	.2059	.8131
O-fenilalanil parasetamol 200 mg/kg BB	.71522*	.08948	.000	.4116	1.0188
parasetamol Kontrol 50 mg/kg BB	-1.15200*	.08948	.000	-1.4556	-.8484
parasetamol 12.5 mg/kg BB	-.29000	.08948	.073	-.5936	.0136
parasetamol 25 mg/kg BB	-.10200	.08948	.986	-.4056	.2016
parasetamol 100 mg/kg BB	.34800*	.08948	.013	.0444	.6516
parasetamol 200 mg/kg BB	.41600*	.08948	.001	.1124	.7196

	O-fenilalanil parasetamol 12.5 mg/kg BB	-.40200*	.08948	.002	-.7056	-.0984
	O-fenilalanil parasetamol 25 mg/kg BB	.06250	.08948	1.000	-.2411	.3661
	O-fenilalanil parasetamol 50 mg/kg BB	.09500	.08948	.992	-.2086	.3986
	O-fenilalanil parasetamol 100 mg/kg BB	.40750*	.08948	.002	.1039	.7111
	O-fenilalanil parasetamol 200 mg/kg BB	.61322*	.08948	.000	.3096	.9168
parasetamol 100 mg/kg BB	Kontrol	-1.50000*	.08948	.000	-1.8036	-1.1964
	parasetamol 12.5 mg/kg BB	-.63800*	.08948	.000	-.9416	-.3344
	parasetamol 25 mg/kg BB	-.45000*	.08948	.000	-.7536	-.1464
	parasetamol 50 mg/kg BB	-.34800*	.08948	.013	-.6516	-.0444
	parasetamol 200 mg/kg BB	.06800	.08948	.999	-.2356	.3716

O-fenilalanil parasetamol 12.5 mg/kg BB		-.75000*	.08948	.000	-1.0536	-.4464
O-fenilalanil parasetamol 25 mg/kg BB		-.28550	.08948	.082	-.5891	.0181
O-fenilalanil parasetamol 50 mg/kg BB		-.25300	.08948	.182	-.5566	.0506
O-fenilalanil parasetamol 100 mg/kg BB		.05950	.08948	1.000	-.2441	.3631
O-fenilalanil parasetamol 200 mg/kg BB		.26522	.08948	.136	-.0384	.5688
parasetamol 200 mg/kg BB	Kontrol	-1.56800*	.08948	.000	-1.8716	-1.2644
	parasetamol 12.5 mg/kg BB	-.70600*	.08948	.000	-1.0096	-.4024
	parasetamol 25 mg/kg BB	-.51800*	.08948	.000	-.8216	-.2144
	parasetamol 50 mg/kg BB	-.41600*	.08948	.001	-.7196	-.1124
	parasetamol 100 mg/kg BB	-.06800	.08948	.999	-.3716	.2356

	O-fenilalanil parasetamol 12.5 mg/kg BB	-.81800*	.08948	.000	-1.1216	-.5144
	O-fenilalanil parasetamol 25 mg/kg BB	-.35350*	.08948	.011	-.6571	-.0499
	O-fenilalanil parasetamol 50 mg/kg BB	-.32100*	.08948	.030	-.6246	-.0174
	O-fenilalanil parasetamol 100 mg/kg BB	-.00850	.08948	1.000	-.3121	.2951
	O-fenilalanil parasetamol 200 mg/kg BB	.19722	.08948	.514	-.1064	.5008
O-fenilalanil parasetamol 12.5 mg/kg BB	Kontrol	-.75000*	.08948	.000	-1.0536	-.4464
	parasetamol 12.5 mg/kg BB	.11200	.08948	.972	-.1916	.4156
	parasetamol 25 mg/kg BB	.30000	.08948	.055	-.0036	.6036
	parasetamol 50 mg/kg BB	.40200*	.08948	.002	.0984	.7056
	parasetamol 100 mg/kg BB	.75000*	.08948	.000	.4464	1.0536
	parasetamol 200 mg/kg BB	.81800*	.08948	.000	.5144	1.1216

O-fenilalanil parasetamol 25 mg/kg BB		.46450*	.08948	.000	.1609	.7681
O-fenilalanil parasetamol 50 mg/kg BB		.49700*	.08948	.000	.1934	.8006
O-fenilalanil parasetamol 100 mg/kg BB		.80950*	.08948	.000	.5059	1.1131
O-fenilalanil parasetamol 200 mg/kg BB		1.01522*	.08948	.000	.7116	1.3188
O-fenilalanil parasetamol 25 mg/kg BB	Kontrol	-1.21450*	.08948	.000	-1.5181	-.9109
	parasetamol 12.5 mg/kg BB	-.35250*	.08948	.012	-.6561	-.0489
	parasetamol 25 mg/kg BB	-.16450	.08948	.751	-.4681	.1391
	parasetamol 50 mg/kg BB	-.06250	.08948	1.000	-.3661	.2411
	parasetamol 100 mg/kg BB	.28550	.08948	.082	-.0181	.5891
	parasetamol 200 mg/kg BB	.35350*	.08948	.011	.0499	.6571

	O-fenilalanil parasetamol 12.5 mg/kg BB	-.46450*	.08948	.000	-.7681	-.1609
	O-fenilalanil parasetamol 50 mg/kg BB	.03250	.08948	1.000	-.2711	.3361
	O-fenilalanil parasetamol 100 mg/kg BB	.34500*	.08948	.015	.0414	.6486
	O-fenilalanil parasetamol 200 mg/kg BB	.55072*	.08948	.000	.2471	.8543
O-fenilalanil parasetamol 50 mg/kg BB	Kontrol	-1.24700*	.08948	.000	-1.5506	-.9434
	parasetamol 12.5 mg/kg BB	-.38500*	.08948	.004	-.6886	-.0814
	parasetamol 25 mg/kg BB	-.19700	.08948	.516	-.5006	.1066
	parasetamol 50 mg/kg BB	-.09500	.08948	.992	-.3986	.2086
	parasetamol 100 mg/kg BB	.25300	.08948	.182	-.0506	.5566
	parasetamol 200 mg/kg BB	.32100*	.08948	.030	.0174	.6246

O-fenilalanil parasetamol 12.5 mg/kg BB		-.49700*	.08948	.000	-.8006	-.1934
O-fenilalanil parasetamol 25 mg/kg BB		-.03250	.08948	1.000	-.3361	.2711
O-fenilalanil parasetamol 100 mg/kg BB		.31250*	.08948	.039	.0089	.6161
O-fenilalanil parasetamol 200 mg/kg BB		.51822*	.08948	.000	.2146	.8218
O-fenilalanil Kontrol		-1.55950*	.08948	.000	-1.8631	-1.2559
parasetamol 100 mg/kg BB	parasetamol 12.5 mg/kg BB	-.69750*	.08948	.000	-1.0011	-.3939
	parasetamol 25 mg/kg BB	-.50950*	.08948	.000	-.8131	-.2059
	parasetamol 50 mg/kg BB	-.40750*	.08948	.002	-.7111	-.1039
	parasetamol 100 mg/kg BB	-.05950	.08948	1.000	-.3631	.2441
	parasetamol 200 mg/kg BB	.00850	.08948	1.000	-.2951	.3121

	O-fenilalanil	-.80950*	.08948	.000	-1.1131	-.5059
	parasetamol					
	12.5 mg/kg BB					
	O-fenilalanil	-.34500*	.08948	.015	-.6486	-.0414
	parasetamol 25					
	mg/kg BB					
	O-fenilalanil	-.31250*	.08948	.039	-.6161	-.0089
	parasetamol 50					
	mg/kg BB					
	O-fenilalanil	.20572	.08948	.452	-.0979	.5093
	parasetamol					
	200 mg/kg BB					
O-fenilalanil parasetamol 200 mg/kg BB	Kontrol	-1.76522*	.08948	.000	-2.0688	-1.4616
	parasetamol	-.90322*	.08948	.000	-1.2068	-.5996
	12.5 mg/kg BB					
	parasetamol 25	-.71522*	.08948	.000	-1.0188	-.4116
	mg/kg BB					
	parasetamol 50	-.61322*	.08948	.000	-.9168	-.3096
	mg/kg BB					
	parasetamol	-.26522	.08948	.136	-.5688	.0384
	100 mg/kg BB					
	parasetamol	-.19722	.08948	.514	-.5008	.1064
	200 mg/kg BB					
	O-fenilalanil	-1.01522*	.08948	.000	-1.3188	-.7116
	parasetamol					
	12.5 mg/kg BB					

O-fenilalanil parasetamol 25 mg/kg BB	-.55072*	.08948	.000	-.8543	-.2471
O-fenilalanil parasetamol 50 mg/kg BB	-.51822*	.08948	.000	-.8218	-.2146
O-fenilalanil parasetamol 100 mg/kg BB	-.20572	.08948	.452	-.5093	.0979

*. The mean difference is significant at the 0.05 level.

LAMPIRAN C
PERHITUNGAN PERSENTASE PENURUNAN SUHU SENYAWA
UJI O-(FENILALANIL)PARASETAMOL DAN SENYAWA
PEMBANDING PARASETAMOL

$$\% \text{ Penurunan Suhu} = \frac{T_t - T_k}{T_t} \times 100\%$$

Keterangan :

Tk : Penurunan suhu tubuh rata-rata pada kelompok kontrol

Tt : Penurunan suhu tubuh rata-rata pada kelompok senyawa
uji atau pembanding

a. Senyawa O-(fenilalanil)parasetamol :

Dosis 200 mg/kg BB

$$\% \text{ Penurunan Suhu} = \frac{1,87 - 0,16}{1,87} \times 100\% = 91,46\%$$

Dosis 100 mg/kg BB

$$\% \text{ Penurunan Suhu} = \frac{1,69 - 0,16}{1,69} \times 100\% = 90,52\%$$

Dosis 50 mg/kg BB

$$\% \text{ Penurunan Suhu} = \frac{1,36 - 0,16}{1,36} \times 100\% = 88,19\%$$

Dosis 25 mg/kg BB

$$\% \text{ Penurunan Suhu} = \frac{1,24 - 0,16}{1,24} \times 100\% = 87,12\%$$

Dosis 12,5 mg/kg BB

$$\% \text{ Penurunan Suhu} = \frac{0,90 - 0,16}{0,90} \times 100\% = 82,22\%$$

b. Senyawa Parasetamol :

Dosis 200 mg/kg BB

$$\% \text{ Penurunan Suhu} = \frac{1,84 - 0,16}{1,84} \times 100\% = 91,29\%$$

Dosis 100 mg/kg BB

$$\% \text{ Penurunan Suhu} = \frac{1,61 - 0,16}{1,61} \times 100\% = 90,06\%$$

Dosis 50 mg/kg BB

$$\% \text{ Penurunan Suhu} = \frac{1,20 - 0,16}{1,20} \times 100\% = 86,69\%$$

Dosis 25 mg/kg BB

$$\% \text{ Penurunan Suhu} = \frac{1,16 - 0,16}{1,16} \times 100\% = 86,17\%$$

Dosis 12,5 mg/kg BB

$$\% \text{ Penurunan Suhu} = \frac{0,75 - 0,16}{0,75} \times 100\% = 78,67\%$$

LAMPIRAN D

ANALISIS PROBIT

O-(fenilalanil)parasetamol

Data Information

	N of Cases
Valid	5
Rejected Missing	0
Number of Responses >	0
Number of Subjects	
Control Group	0

Parameter Estimates

Parameter	Estimate	Std. Error	Z	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
PROBIT ^a Dosis_Fenilalanil	.002	.001	1.815	.070	.000	.004
Intercept	1.022	.107	9.557	.000	.915	1.129

a. PROBIT model: PROBIT(p) = Intercept + BX

Cell Counts and Residuals

	Number	Dosis_Fenilalanil	Number of Subjects	Observed Responses	Expected Responses	Residual	Probability
PROBIT 1		12.500	100	82	85.256	-3.036	.853
2		25.000	100	87	85.842	1.278	.858
3		50.000	100	88	86.965	1.225	.870
4		100.000	100	91	89.024	1.496	.890
5		200.000	100	91	92.420	-.960	.924

Confidence Limits

	Probab ility	95% Confidence Limits for Dosis_Fenilalanil		
		Estimate	Lower Bound	Upper Bound
PROBIT	.010	-1624.350	.	.
	.020	-1492.095	.	.
	.030	-1408.183	.	.
	.040	-1345.060	.	.
	.050	-1293.714	.	.
	.060	-1250.010	.	.
	.070	-1211.691	.	.
	.080	-1177.380	.	.
	.090	-1146.176	.	.
	.100	-1117.453	.	.
	.150	-998.531	.	.
	.200	-904.015	.	.
	.250	-822.929	.	.
	.300	-750.111	.	.
	.350	-682.634	.	.
	.400	-618.606	.	.
	.450	-556.657	.	.
	.500	-495.691	.	.
	.550	-434.725	.	.
	.600	-372.776	.	.
	.650	-308.748	.	.
	.700	-241.271	.	.
	.750	-168.453	.	.
	.800	-87.367	.	.
	.850	7.149	.	.

.900	126.071	.	.
.910	154.794	.	.
.920	185.998	.	.
.930	220.309	.	.
.940	258.628	.	.
.950	302.332	.	.
.960	353.678	.	.
.970	416.801	.	.
.980	500.713	.	.
.990	632.968	.	.

Parasetamol

Data Information

	N of Cases
Valid	5
Rejected Missing	0
Number of Responses >	0
Number of Subjects	
Control Group	0

Parameter Estimates

Parameter	Estimate	Std. Error	Z	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
PROBIT ^a Dosis_parasetamol	.003	.001	2.298	.022	.000	.005
Intercept	.923	.104	8.900	.000	.820	1.027

a. PROBIT model: $\text{PROBIT}(p) = \text{Intercept} + BX$

Cell Counts and Residuals

Number	Dosis_parasetamol	Number of Subjects	Observed Responses	Expected Responses	Residual	Probability
PROBIT 1	12.500	100	79	83.034	-4.364	.830
2	25.000	100	86	83.838	2.332	.838
3	50.000	100	87	85.368	1.322	.854
4	100.000	100	90	88.130	1.930	.881
5	200.000	100	91	92.503	-1.213	.925

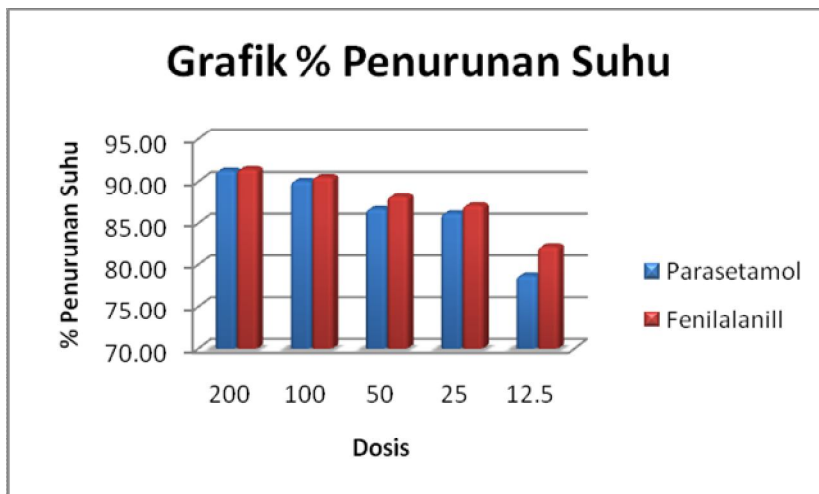
Confidence Limits

Probability		95% Confidence Limits for Dosis parasetamol		
		Estimate	Lower Bound	Upper Bound
PROBIT	.010	-1258.257	-8937.823	-646.864
	.020	-1152.705	-8220.967	-589.784
	.030	-1085.736	-7766.155	-553.557
	.040	-1035.358	-7424.024	-526.299
	.050	-994.379	-7145.732	-504.122
	.060	-959.499	-6908.866	-485.242
	.070	-928.917	-6701.183	-468.685
	.080	-901.534	-6515.231	-453.857
	.090	-876.630	-6346.117	-440.370
	.100	-853.706	-6190.450	-427.952
	.150	-758.795	-5545.973	-376.513
	.200	-683.363	-5033.801	-335.593
	.250	-618.649	-4594.440	-300.451
	.300	-560.533	-4199.917	-268.855
	.350	-506.681	-3834.374	-239.536
	.400	-455.580	-3487.558	-211.666
	.450	-406.139	-3152.069	-184.642
	.500	-357.482	-2821.975	-157.970
	.550	-308.826	-2491.987	-131.192
	.600	-259.385	-2156.840	-103.827
	.650	-208.284	-1810.693	-75.288
	.700	-154.432	-1446.378	-44.740
	.750	-96.316	-1054.293	-10.706
	.800	-31.602	-621.182	30.686
	.850	43.830	-145.310	107.906
	.900*	138.742	83.162	575.350
	.910	161.665	100.695	725.902
	.920	186.569	117.647	891.551
	.930	213.952	134.973	1075.005
	.940	244.535	153.422	1280.796
	.950	279.414	173.794	1516.170

	.960	320.393	197.192	1793.241
	.970	370.771	225.488	2134.334
	.980	437.741	262.641	2588.219
	.990	543.293	320.625	3304.171

LAMPIRAN E
DATA & GRAFIK PENURUNAN SUHU

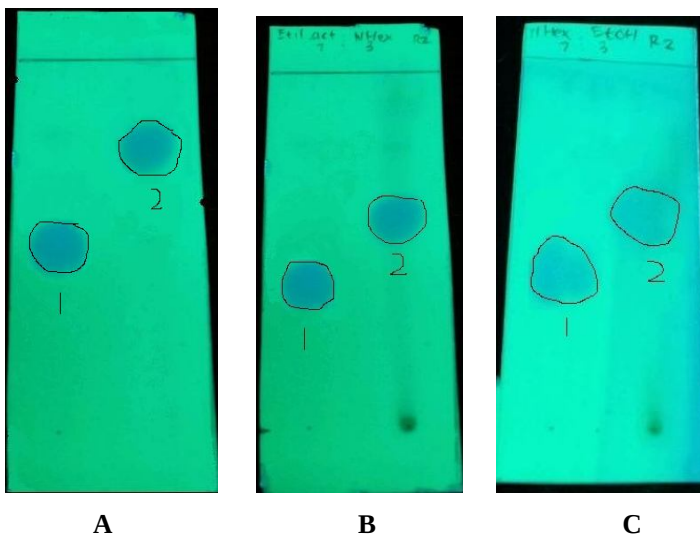
Kelompok	Penurunan Suhu Senyawa Uji dan Pembanding	% Penurunan Suhu
Kontrol	0,16	
Parasetamol 200 mg/kg BB	1,84	91,29
Parasetamol 100 mg/kg BB	1,61	90,06
Parasetamol 50 mg/kg BB	1,20	86,69
Parasetamol 25 mg/kg BB	1,16	86,17
Parasetamol 12,5 mg/kg BB	0,75	78,67
O-(fenilalanil)parasetamol 200 mg/kg BB	1,87	91,46
O-(fenilalanil)parasetamol 100 mg/kg BB	1,69	90,52
O-(fenilalanil)parasetamol 50 mg/kg BB	1,36	88,19
O-(fenilalanil)parasetamol 25 mg/kg BB	1,24	87,12
O-(fenilalanil)parasetamol 12,5 mg/kg BB	0,90	82,22



LAMPIRAN F

DOKUMENTASI HASIL UJI KLT

Pemisahan noda parasetamol dengan O-(fenilalanil)parasetamol



Keterangan :

1. Parasetamol
 2. Senyawa hasil sintesis
- A. Fase diam: Silika Gel GF₂₅₄, Fase gerak: n-heksana : metanol (4:6).
- B. Fase diam: Silika Gel GF₂₅₄, Fase gerak: etil asetat : n-heksana (7:3)
- C. Fase diam: Silika Gel GF₂₅₄, Fase gerak: n-heksana : etanol (7:3)

LAMPIRAN G

DOKUMENTASI PENELITIAN

Mencit Sebelum diberi Perlakuan



Pada saat induksi senyawa uji secara intraperitoneal



LAMPIRAN H

SERTIFIKAT PARASETAMOL

FROM : PT. BRATACO

FAN NO. 10219934659

29 Apr. 2012 11:47PM P1

✓ B.T.C 587 6/2 - 2012
 ✓ B.T.C 589 30/4 - 2012



PT. BRATACO
HASIL PEMERIKSAAN



Nama Bahan : Parasetamol
 No Batch : J 092011 (1009053)
 Ex : Hengshui Jiheng
 E.D : 09/2014
 Grade : farma

Jenis Pemeriksaan : Persyaratan FI IV

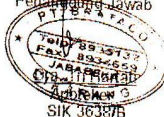
		Hasil
Pemerian	Serbuk hablur, putih, tidak berbau, rasa pahit	sesuai
Kelarutan	Larut dalam air mendidih, mudah larut dalam etanol	sesuai
Suhu Lebur	168°C - 172°C	169.3 - 170.3°C
Susut Pengeringan	Tidak lebih dari 5.5%	0.2%
Kadar	98.0% - 101.0%	99.5%

Kesimpulan : Memenuhi Syarat

Pemeriksa

[Signature]
Tatang Suhartono
 Analis

Cikarang, 29-09-2011
 Penanggung Jawab



LAMPIRAN I
SERTIFIKAT SENYAWA UJI O-(FENILALANIL)PARASETAMOL

Laporan Hasil Pemeriksaan Senyawa

1. Nama senyawa : *O*-(fenilalanil)parasetamol
2. Dibuat oleh : Siswandono
3. Tanggal dibuat : 9 Juli 2012
4. Rendemen : 62%
5. Pemeriksaan :

No.	Jenis Pemeriksaan	Hasil Pemeriksaan
1. 2. 3. 4.	Pemerian/Organoleptis Jarak lebur Kelarutan Uji KLT(3 eluen)	Serbuk, warna coklat, bau (+). 168-170°C. etanol, aseton, dimetilsulfoksid. 1 noda.
5.	Spektrum IR : ν (cm^{-1}) Dalam pelet KBr	3459 (-NH amida); 2985 (-NH ₂); 1723 (-C=O ester); 1645 (-C=O amida); 1514 (-C=C- aromatis).
6.	Spektrum ^1H NMR : δ (ppm) Dalam pelarut DMSO- D_6	9,61, s, (-NH); 3,85, s, (NH ₂); 7,38-6,62, m, (-C ₆ H ₄); 2,52-1,97, m, (-CH ₂ , -CH ₂ , -CH ₃)

Kesimpulan : Senyawa adalah *O*-(fenilalanil)parasetamol.

Surabaya, 2 September 2012

Ketua Peneliti,



Prof. Dr. Siswandono, M.S.

Mengetahui:
Ketua Departemen Kimia Farmasi
Fakultas Farmasi Unair

Marcellino Rudyanto, MSI, Ph.D
NIP. 19660518 199203 1 002

LAMPIRAN J

KETERANGAN PEPTON (Merck)

(PEPTONE FROM MEAT/PEPTIC)



1.07224 Peptone from Meat (Peptic)
Granulated

For general questions please contact our
Customer Service:

EMD Millipore
290 Concord Road
01821 Billerica, MA
United States
Phone: 781 533-6000
Fax: +49 6151 72 2000
E-mail:
Customer.CareDesk@emdchemicals.com

22 January 2013

1.07224 Peptone from Meat (Peptic)
Granulated

For general questions please contact our
Customer Service:

EMD Millipore
290 Concord Road
01821 Billerica, MA
United States
Phone: 781 533-6000
Fax: +49 6151 72 2000
E-mail:
Customer.CareDesk@emdchemicals.com

22 January 2013



Peptone from Meat (Peptic)
1.07224.0201 10g Pouch, Box of 20

Product number	Packaging	Qty/Pk	Price	Delivery Date
			Please login to see your account specific pricing.	
1.07224.0201	20 Pouches per Pack	1 pac	USD 87.89	
1.07224.1000	Poly Bottle	1 kg	USD 175.97	
1.07224.2500	Poly Bottle	2.5 kg	USD 425.40	

Prices are subject to change without notice.

Product information	
Chemical formula	Mixture
Suitability	For Microbiology
Comments	In the .0201 package size, each pouch contains a preweighed quantity of Peptone sufficient for preparing 1 liter of culture media..Each pouch contains 10.00g of media.

Specifications	
Amino nitrogen (as N)	3.0-5.0%
Appearance	Light brownish-yellow granulate
Expiration date	Exp 60 months from mfg date
Loss on drying (105°C)	6.0% max
Nitrite (NO ₂)	Passes test
pH (5%, water)	6.5-7.5
Suitability for microbiology	Passes test
Sulfated ash (800°C)	15.0% max
Test date	Per Merck CoFA
Total nitrogen (N)	11.0-14.0%

Supplemental information	
Application	Peptone from meat (peptic) is obtained by proteolytic digestion of meat with pepsin. Can be used to prepare rinsing/dilution fluids.
Suitability	For Microbiology
Reference methods	AOAC APHA BAM EP SMWW USDA USP(Fluid A & D)

© Merck KGaA, Darmstadt, Germany, Customer.CareDesk(at)emdchemicals.com, 2013
All references to Merck refer to Merck KGaA, Darmstadt, Germany.

LAMPIRAN K
SURAT KETERANGAN HEWAN COBA

SURAT KETERANGAN

Yang bertanda tangan di bawah ini :

Nama : Heri Soemantoro

Selaku kordinator Pengembangan Hewan Coba Departemen Biokimia FK Unair menerangkan bahwa yang digunakan penelitian merupakan hewan uji dengan spesifikasi:

Mencit (*Mus musculus*)

Keterangan : Sehat

Jenis Kelamin : Jantan

Jumlah : 150 ekor

Asal Usul Hewan : Pusvetma

yang pengelolanya telah bersertifikat dan disesuaikan dengan standard baku penelitian.

Demikian surat keterangan ini dibuat untuk dapat digunakan sebaik-baiknya.

Surabaya, 18 Desember 2012

Koordinator



Heri Soemantoro

LAMPIRAN L
TABEL KORELASI (r)

Degrees of Freedom (DF)	5 Percent	1 Percent	Degrees of Freedom (DF)	5 Percent	1 Percent
1	0,997	1	24	0,388	0,496
2	0,95	0,99	25	0,381	0,487
3	0,878	0,959	26	0,374	0,478
4	0,811	0,917	27	0,367	0,47
5	0,754	0,874	28	0,361	0,463
6	0,707	0,834	29	0,355	0,456
7	0,666	0,798	30	0,349	0,449
8	0,632	0,765	31	0,325	0,418
9	0,602	0,735	32	0,304	0,393
10	0,576	0,708	33	0,288	0,372
11	0,553	0,684	34	0,273	0,354
12	0,532	0,661	35	0,25	0,325
13	0,514	0,641	36	0,232	0,302
14	0,497	0,623	37	0,217	0,283
15	0,482	0,606	38	0,205	0,267
16	0,468	0,59	39	0,195	0,254
17	0,456	0,575	40	0,174	0,228
18	0,444	0,561	41	0,159	0,208
19	0,433	0,549	42	0,138	0,181
20	0,423	0,537	43	0,113	0,148
21	0,413	0,526	44	0,098	0,128
22	0,404	0,515	45	0,088	0,115
23	0,396	0,505	46	0,062	0,081