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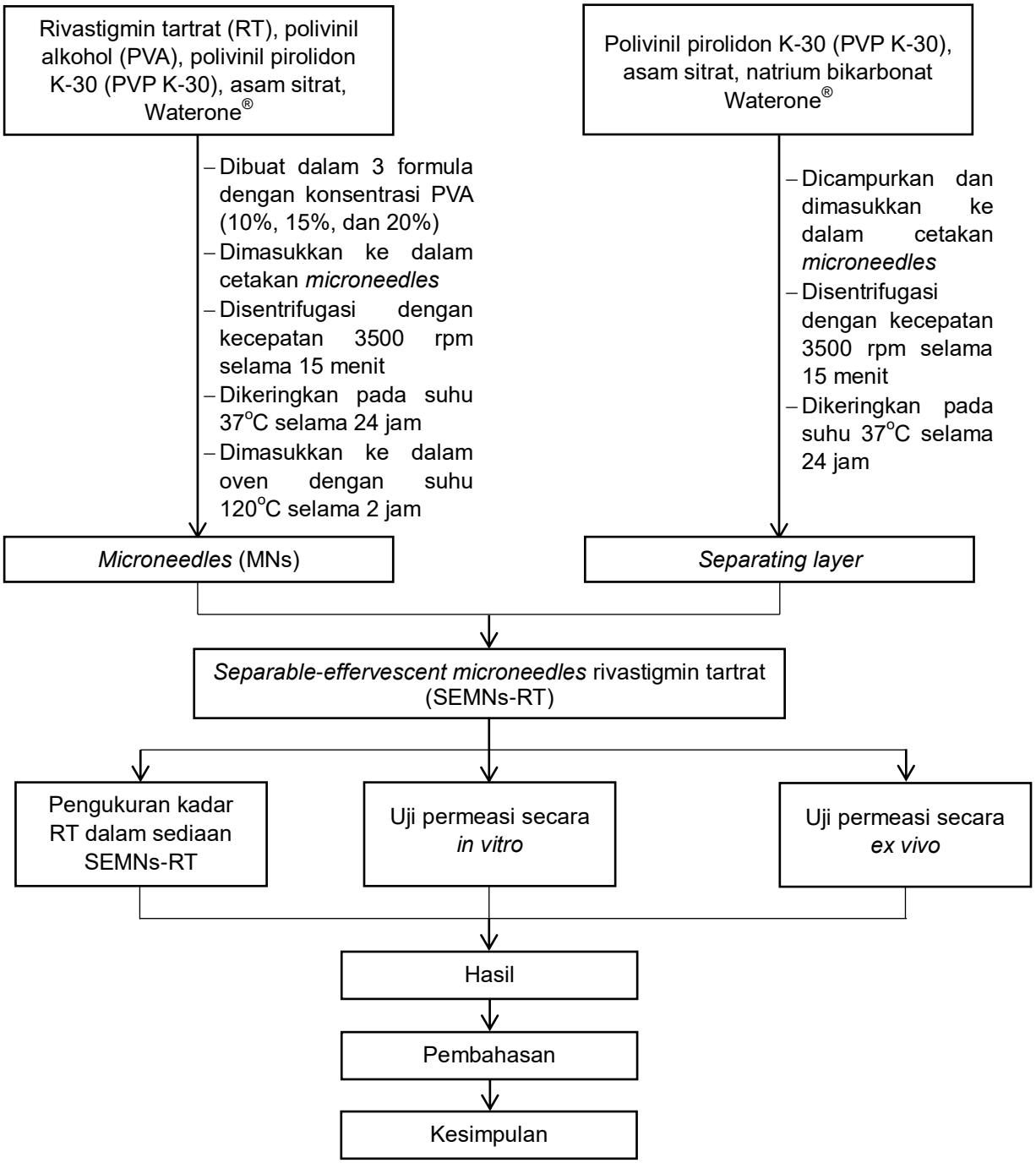
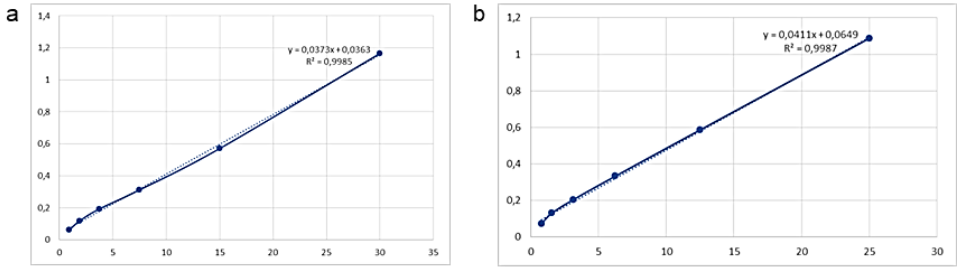
LAMPIRAN

Lampiran 1. Skema kerja penelitian



Lampiran 2. Penentuan Panjang Gelombang dan Kurva Baku



Gambar 8. Kurva baku rivastigmin tartrat dalam media PBS 7.4 (a), jaringan kulit tikus (b)

Lampiran 3. Perhitungan

Lampiran 3.1 Pengukuran Kadar RT dalam Sediaan SEMNs-RT

Contoh perhitungan formula M1 Replikasi 1

Diketahui, Persamaan: y = 0,0373x + 0,0363
Absorbansi M1 replikasi 1: 0,391
Jumlah RT yang sebenarnya dalam SEMNs-RT = 10 mg
Ditanyakan, %Kadar RT=…….?
Penyelesaian,
y = 0,0373x + 0,0363
0,391 = 0,0373x + 0,0363

$$x = \frac{0,391 - 0,0363}{0,0373}$$

$$x = \frac{0,3547}{0,0373}$$

x = 9,50

$$\%\text{kadar RT} = \frac{x}{10} \times 100\%$$

$$\%\text{kadar RT} = \frac{9,50}{10} \times 100\%$$

%kadar RT = 95%
Jadi, kadar RT dalam formula M1 replikasi 1 sebesar 95%

Lampiran 3.2 Uji permeasi *in vitro*

Contoh perhitungan untuk M1 Replikasi 1

Persamaan: y = 0,0373x + 0,0363
Absorbansi M1 replikasi 1: 0,03834
y = 0,0373x + 0,0363
0,03834 = 0,0373x + 0,0363

$$x = \frac{0,03834 - 0,0363}{0,0373}$$

$$x = \frac{0,00204}{0,0373}$$

x = 0,05469 µg/mL
Konsentrasi dalam 1 mL = 0,05469 µg/mL x 1 mL
= 0,05469 µg
Konsentrasi dalam 28 mL= 0,05469 µg x 28 mL
= 1,53 µg
Jumlah terpermeasi = konsentrasi dalam 28 mL + faktor koreksi
= 1,53 µg + 0
= 1,53 µg
Jadi, jumlah RT yang terpermeasi dari formula M1 replikasi 1 sebesar 1,53 µg

Lampiran 3.3 Uji permeasi *ex vivo*

Contoh perhitungan untuk M1 Replikasi 1

Persamaan: y = 0,0373x + 0,0363
Absorbansi M1 replikasi 1: 0,03787
y = 0,0373x + 0,0363
0,03787 = 0,0373x + 0,0363

$$x = \frac{0,03787 - 0,0363}{0,0373}$$

$$x = \frac{0,00157}{0,0373}$$

x = 0,04209 µg/mL
Konsentrasi dalam 1 mL = 0,04209 µg/mL x 1 mL
= 0,04209 µg
Konsentrasi dalam 28 mL= 0,04209 µg x 28 mL
= 1,17852 µg
Jumlah terpermeasi = konsentrasi dalam 28 mL + faktor koreksi
= 1,17852 µg + 0
= 1,17852 µg
Jadi, jumlah RT yang terpermeasi dari formula M1 replikasi 1 sebesar 1,17852 µg

Lampiran 3.4 Perhitungan retensi

Persamaan: y = 0,0411x + 0,0649
Absorbansi M1 replikasi 1: 0,6214

y = 0,0411x + 0,0649
0,6214 = 0,0411x + 0,0649

$$x = \frac{(0,6214 - 0,0649)}{0,0411}$$

$$x = \frac{0,5565}{0,0411}$$

x = 13,54 µg/cm^2
Jadi, jumlah RT yang teretensi dari formula M1 replikasi 1 sebesar 13,54 µg/cm^2

Lampiran 4. Tabel Hasil Evaluasi

Tabel 4. 1. Kurva Baku RT dalam PBS 7,4

Konsentrasi	y1	y2	y3	Rata-rata
30	1,291	1,043	1,162	1,165
15	0,632	0,504	0,576	0,571
7,5	0,376	0,255	0,304	0,312
3,75	0,201	0,187	0,192	0,193
1,875	0,128	0,119	0,105	0,117
0,9375	0,064	0,054	0,065	0,061

Tabel 4. 2. Kurva Baku RT dalam Jaringan Kulit Tikus

Konsentrasi	y1	y2	y3	Rata-rata
25	1,093	1,128	1,039	1,087
12,5	0,594	0,577	0,587	0,586
6,25	0,334	0,325	0,341	0,334
3,125	0,206	0,205	0,201	0,204
1,5625	0,131	0,133	0,130	0,131
0,78125	0,072	0,075	0,072	0,073

Tabel 4. 3. Pengukuran Kadar RT dalam SEMNs-RT

Formula	Absorbansi	Konsentrasi (µg/mL)	Perolehan kembali (%)	Rata-rata (%)	SD
M1	0,391	9,5	95	98,43	3,43
	0,403	9,843	98,43		
	0,416	10,186	101,86		
M2	0,395	9,614	96,14	99,01	2,87
	0,406	9,901	99,01		
	0,416	10,188	101,88		
M3	0,391	9,5	95	97,87	2,87
	0,401	9,787	97,87		
	0,412	10,074	100,74		

Tabel 4. 4. Uji permeasi *in vitro*

Formula M1

Waktu	Absorbansi	Konsentrasi (µg/mL)	28 mL (µg)	Faktor koreksi	RT yang terpermeasi (µg)	Rata-rata (µg)	SD
0,5	0,038	0,06	1,55	0,00000	1,55	1,54	0,01
	0,038	0,05	1,54	0,00000	1,54		
	0,038	0,05	1,53	0,00000	1,53		
1	0,042	0,16	4,56	0,00006	4,56	4,32	0,24
	0,042	0,15	4,32	0,00005	4,32		

	0,042	0,15	4,08	0,00005	4,08		
	0,053	0,44	12,26	0,00022	12,26		
2	0,054	0,48	13,45	0,00021	13,45	13,45	1,19
	0,056	0,52	14,64	0,00020	14,64		
	0,065	0,76	21,34	0,00066	21,34		
3	0,068	0,84	23,43	0,00069	23,43	21,34	2,09
	0,062	0,69	19,25	0,00072	19,25		
	0,085	1,31	36,57	0,00142	36,57		
4	0,093	1,52	42,54	0,00153	42,54	39,56	2,98
	0,089	1,41	39,56	0,00141	39,56		
	0,109	1,94	54,34	0,00272	54,34		
5	0,103	1,79	50,02	0,00305	50,02	54,34	4,32
	0,114	2,10	58,66	0,00282	58,66		
	0,122	2,29	64,09	0,00466	64,09		
6	0,129	2,48	69,54	0,00483	69,54	69,54	5,45
	0,136	2,68	74,99	0,00492	74,99		
	0,154	3,16	88,55	0,00695	88,56		
7	0,135	2,64	73,93	0,00732	73,94	81,24	7,31
	0,145	2,90	81,24	0,00760	81,25		
	0,167	3,52	98,45	0,01012	98,46		
8	0,157	3,23	90,44	0,00996	90,45	98,45	8,01
	0,178	3,80	106,46	0,01050	106,47		

Formula M2

Waktu	Absorbansi	Konsentrasi (µg/mL)	28 mL (µg)	Faktor koreksi	RT yang terpermeasi (µg)	Rata-rata (µg)	SD
0,5	0,037	0,02	0,57	0,00000	0,57	0,54	0,03
	0,037	0,02	0,54	0,00000	0,54		
	0,037	0,0182	0,51	0,00000	0,51		
1	0,038	0,04	1,09	0,00002	1,09	1,09	0,09
	0,038	0,04	1,18	0,00002	1,18		
	0,038	0,04	1,00	0,00002	1,00		
2	0,044	0,19	5,44	0,00006	5,44	5,44	0,54
	0,044	0,21	5,98	0,00006	5,98		
	0,043	0,18	4,90	0,00005	4,90		
3	0,050	0,37	10,22	0,00025	10,22	9,35	0,87
	0,049	0,33	9,35	0,00028	9,35		
	0,048	0,30	8,48	0,00023	8,48		
4	0,060	0,63	17,65	0,00062	17,65	17,65	1,54
	0,058	0,58	16,11	0,00061	16,11		
	0,062	0,69	19,19	0,00053	19,19		
5	0,065	0,76	21,34	0,00125	21,34	21,34	2,09
	0,068	0,84	23,43	0,00118	23,43		
	0,062	0,69	19,25	0,00122	19,25		
6	0,073	0,98	27,43	0,00201	27,43	30,45	3,02

	0,081	1,20	33,47	0,00202	33,47		
	0,077	1,09	30,45	0,00190	30,45		
	0,095	1,58	44,22	0,00299	44,22		
7	0,090	1,44	40,35	0,00322	40,35	40,35	3,87
	0,085	1,30	36,48	0,00299	36,48		
	0,105	1,83	51,24	0,00457	51,24		
8	0,111	1,99	55,80	0,00466	55,80	51,24	4,56
	0,098	1,67	46,68	0,00429	46,68		

Formula M3

Waktu	Absorbansi	Konsentrasi (µg/mL)	28 mL (µg)	Faktor koreksi	RT yang terpermeasi (µg)	Rata-rata (µg)	SD
	0,0368	0,013	0,37	0,000000	0,37		
0,5	0,0368	0,012	0,34	0,000000	0,34	0,34	0,03
	0,0367	0,011	0,31	0,000000	0,31		
	0,0377	0,038	1,06	0,000013	1,06		
1	0,0376	0,035	0,98	0,000012	0,98	0,98	0,08
	0,0375	0,032	0,90	0,000011	0,90		
	0,0449	0,231	6,48	0,000051	6,48		
2	0,0438	0,201	5,62	0,000047	5,62	6,05	0,43
	0,0444	0,216	6,05	0,000043	6,05		
3	0,0487	0,333	9,31	0,000283	9,31	9,31	0,76
	0,0477	0,305	8,55	0,000248	8,55		

	0,0497	0,360	10,07	0,000259	10,07		
	0,0575	0,568	15,90	0,000615	15,90		
4	0,0557	0,519	14,54	0,000553	14,54	14,54	1,36
	0,0539	0,471	13,18	0,000619	13,18		
	0,0662	0,801	22,43	0,001183	22,43		
5	0,0606	0,652	18,25	0,001073	18,25	20,34	2,09
	0,0634	0,726	20,34	0,001090	20,34		
	0,0738	1,005	28,14	0,001984	28,14		
6	0,0840	1,279	35,82	0,001724	35,82	31,98	3,84
	0,0789	1,142	31,98	0,001816	31,98		
	0,0966	1,616	45,26	0,002989	45,26		
7	0,0915	1,480	41,43	0,003004	41,43	41,43	3,83
	0,0864	1,343	37,60	0,002958	37,60		
	0,1099	1,974	55,26	0,004605	55,26		
8	0,0970	1,629	45,60	0,004483	45,60	50,43	4,83
	0,1035	1,801	50,43	0,004301	50,43		

Formula *patch control*

Waktu	Absorbansi	Konsentrasi (µg/mL)	28 mL (µg)	Faktor koreksi	RT yang terpermeasi (µg)	Rata-rata (µg)	SD
0,5	0,03657	0,0071	0,20	0,0000000	0,20	0,19	0,01
	0,03655	0,0068	0,19	0,0000000	0,19		
	0,03654	0,0064	0,18	0,0000000	0,18		
1	0,03663	0,0089	0,25	0,0000071	0,25	0,23	0,02
	0,03658	0,0075	0,21	0,0000068	0,21		
	0,03661	0,0082	0,23	0,0000064	0,23		
2	0,03687	0,0154	0,43	0,0000161	0,43	0,43	0,03
	0,03683	0,0143	0,40	0,0000143	0,40		
	0,03691	0,0164	0,46	0,0000146	0,46		
3	0,03771	0,0379	1,06	0,0000314	1,06	0,98	0,08
	0,03750	0,0321	0,90	0,0000286	0,90		
	0,03761	0,0350	0,98	0,0000311	0,98		
4	0,03823	0,0518	1,45	0,0000693	1,45	1,32	0,13
	0,03806	0,0471	1,32	0,0000607	1,32		
	0,03789	0,0425	1,19	0,0000661	1,19		
5	0,03883	0,0679	1,90	0,0001211	1,90	2,09	0,19
	0,03934	0,0814	2,28	0,0001079	2,28		
	0,03908	0,0746	2,09	0,0001086	2,09		
6	0,04160	0,1421	3,98	0,0001889	3,98	3,98	0,28
	0,04197	0,1521	4,26	0,0001893	4,26		

	0,04123	0,1321	3,70	0,0001832	3,70		
	0,04353	0,1939	5,43	0,0003311	5,43		
7	0,04291	0,1771	4,96	0,0003414	4,96	5,43	0,47
	0,04416	0,2107	5,90	0,0003154	5,90		
	0,05274	0,4407	12,34	0,0005250	12,34		
8	0,05410	0,4771	13,36	0,0005186	13,36	12,34	1,02
	0,05138	0,4043	11,32	0,0005261	11,32		

Tabel 4. 5. Uji permeasi *ex vivo*

Formula M1

Waktu	Absorbansi	Konsentrasi (µg/mL)	28 mL (µg)	Faktor koreksi	RT yang terpermeasi (µg)	Rata-rata (µg)	SD
	0,038	0,04	1,18	0,00000	1,18		
0,5	0,038	0,04	1,17	0,00000	1,17	1,1704	0,0076
	0,038	0,04	1,16	0,00000	1,16		
	0,040	0,11	3,07	0,00004	3,07		
1	0,041	0,12	3,24	0,00004	3,24	3,0672	0,1704
	0,040	0,10	2,90	0,00004	2,90		
	0,050	0,37	10,22	0,00015	10,22		
2	0,051	0,40	11,13	0,00016	11,13	10,222	0,9044
	0,049	0,33	9,32	0,00014	9,32		
3	0,058	0,58	16,22	0,00052	16,22	16,218	1,5884
	0,056	0,52	14,63	0,00055	14,63		

	0,060	0,64	17,81	0,00048	17,81		
	0,079	1,15	32,33	0,00110	32,33		
4	0,076	1,07	30,07	0,00108	30,07	30,0656	2,2648
	0,073	0,99	27,80	0,00111	27,80		
	0,104	1,80	50,45	0,00225	50,45		
5	0,094	1,54	43,02	0,00215	43,02	46,7324	3,7152
	0,099	1,67	46,73	0,00211	46,73		
	0,117	2,17	60,74	0,00405	60,75		
6	0,111	2,01	56,33	0,00369	56,33	56,3274	4,4145
	0,105	1,85	51,91	0,00378	51,92		
	0,141	2,81	78,81	0,00622	78,82		
7	0,133	2,58	72,30	0,00570	72,31	72,3036	6,5059
	0,124	2,35	65,80	0,00563	65,80		
	0,157	3,23	90,49	0,00904	90,50		
8	0,148	2,99	83,68	0,00828	83,69	83,6825	6,8085
	0,139	2,75	76,87	0,00798	76,88		

Formula M2

Waktu	Absorbansi	Konsentrasi (µg/mL)	28 mL (µg)	Faktor koreksi	RT yang terpermeasi (µg)	Rata-rata (µg)	SD
	0,037	0,02	0,43	0,00000	0,43		
0,5	0,037	0,01	0,41	0,00000	0,41	0,4104	0,0228
	0,037	0,01	0,39	0,00000	0,39		
	0,037	0,03	0,84	0,00002	0,84		
1	0,037	0,03	0,77	0,00001	0,77	0,7739	0,0639
	0,037	0,03	0,71	0,00001	0,71		
	0,042	0,16	4,54	0,00005	4,54		
2	0,042	0,15	4,13	0,00004	4,13	4,134	0,4104
	0,041	0,13	3,72	0,00004	3,72		
	0,047	0,28	7,77	0,00021	7,77		
3	0,046	0,25	7,11	0,00019	7,11	7,106	0,6612
	0,045	0,23	6,44	0,00017	6,44		
	0,056	0,52	14,58	0,00049	14,58		
4	0,054	0,48	13,41	0,00044	13,41	13,414	1,1704
	0,053	0,44	12,24	0,00040	12,24		
	0,063	0,72	20,15	0,00101	20,15		
5	0,061	0,66	18,35	0,00092	18,35	18,35	1,7974
	0,058	0,59	16,56	0,00084	16,56		
6	0,072	0,97	27,11	0,00173	27,11	24,66	2,446

	0,069	0,88	24,66	0,00158	24,67		
	0,066	0,79	22,22	0,00143	22,22		
	0,089	1,41	39,36	0,00269	39,36		
7	0,084	1,28	35,91	0,00246	35,91	35,91	3,444
	0,080	1,16	32,47	0,00222	32,47		
	0,099	1,69	47,43	0,00410	47,43		
8	0,094	1,56	43,55	0,00374	43,56	43,55	3,876
	0,089	1,42	39,68	0,00338	39,68		

Formula M3

Waktu	Absorbansi	Konsentrasi (µg/mL)	28 mL (µg)	Faktor koreksi	RT yang terpermeasi (µg)	Rata-rata (µg)	SD
	0,0367	0,010	0,281	0,000000	0,28		
0,5	0,0366	0,009	0,258	0,000000	0,26	0,2584	0,0228
	0,0366	0,008	0,236	0,000000	0,24		
	0,0373	0,027	0,753	0,000010	0,75		
1	0,0372	0,025	0,696	0,000009	0,70	0,6958	0,0568
	0,0372	0,023	0,639	0,000008	0,64		
	0,0429	0,176	4,925	0,000037	4,92		
2	0,0424	0,164	4,598	0,000034	4,60	4,598	0,3268
	0,0420	0,153	4,271	0,000031	4,27		
3	0,0465	0,273	7,653	0,000213	7,65	7,0756	0,5776
	0,0457	0,253	7,076	0,000198	7,08		

	0,0450	0,232	6,498	0,000184	6,50		
	0,0524	0,432	12,084	0,000486	12,08		
4	0,0510	0,395	11,050	0,000451	11,05	11,05	1,0336
	0,0496	0,358	10,017	0,000416	10,02		
	0,0620	0,689	19,290	0,000918	19,29		
5	0,0596	0,625	17,492	0,000846	17,49	17,4924	1,7974
	0,0572	0,561	15,695	0,000774	15,70		
	0,0750	1,036	29,014	0,001607	29,02		
6	0,0708	0,925	25,904	0,001470	25,91	25,9038	3,1104
	0,0667	0,814	22,793	0,001334	22,79		
	0,0900	1,439	40,281	0,002643	40,28		
7	0,0854	1,317	36,873	0,002396	36,88	36,8727	3,4087
	0,0809	1,195	33,464	0,002148	33,47		
	0,0989	1,678	46,971	0,004081	46,98		
8	0,0934	1,531	42,866	0,003712	42,87	42,865	4,1055
	0,0879	1,384	38,760	0,003343	38,76		

Formula *patch control*

Waktu	Absorbansi	Konsentrasi (µg/mL)	28 mL (µg)	Faktor koreksi	RT yang terpermeasi (µg)	Rata-rata (µg)	SD
0,5	0,03650	0,0054	0,15	0,0000000	0,15	0,1444	0,0076
	0,03649	0,0052	0,14	0,0000000	0,14		
	0,03648	0,0049	0,14	0,0000000	0,14		
1	0,03654	0,0063	0,18	0,0000054	0,18	0,1633	0,0142
	0,03652	0,0058	0,16	0,0000052	0,16		
	0,03650	0,0053	0,15	0,0000049	0,15		
2	0,03677	0,0125	0,35	0,0000118	0,35	0,3268	0,0228
	0,03674	0,0117	0,33	0,0000110	0,33		
	0,03670	0,0109	0,30	0,0000102	0,30		
3	0,03737	0,0288	0,81	0,0000243	0,81	0,7448	0,0608
	0,03729	0,0266	0,74	0,0000227	0,74		
	0,03721	0,0244	0,68	0,0000211	0,68		
4	0,03777	0,0394	1,10	0,0000530	1,10	1,0032	0,0988
	0,03764	0,0358	1,00	0,0000493	1,00		
	0,03750	0,0323	0,90	0,0000455	0,90		
5	0,03891	0,0700	1,96	0,0000924	1,96	1,7974	0,1634
	0,03869	0,0642	1,80	0,0000851	1,80		
	0,03848	0,0584	1,63	0,0000778	1,63		
6	0,04090	0,1232	3,45	0,0001624	3,45	3,2238	0,2268
	0,04059	0,1151	3,22	0,0001493	3,22		

	0,04029	0,1070	3,00	0,0001362	3,00		
	0,04330	0,1875	5,25	0,0002856	5,25		
7	0,04274	0,1726	4,83	0,0002644	4,83	4,8327	0,4183
	0,04218	0,1577	4,41	0,0002432	4,41		
	0,05143	0,4056	11,36	0,0004732	11,36		
8	0,05027	0,3746	10,49	0,0004370	10,49	10,489	0,867
	0,04912	0,3436	9,62	0,0004008	9,62		

Tabel 4. 6. Uji retensi

Formula	Absorbansi	Konsentrasi (µg/cm)	Rata-rata (µg/cm^2)	SD
	0,6214	13,54		
M1	0,5766	12,45	12,45	1,09
	0,,5318	11,36		
	3,7639	90		
M2	4,4494	106,68	98,34	8,34
	4,1067	98,34		
	3,90122	93,34		
M3	3,7228	89	93,34	4,34
	4,0795	97,68		
	0,2289	3,99		
Patch control	0,1845	2,91	3,45	0,54
	0,2067	3,45		

Lampiran 5. Analisis Data dan Statistik

Lampiran 5.1 Pengukuran Kadar RT dalam Sediaan SEMNs-RT

Tests of Normality

	SEMNs-RT	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Kadar_RT	M1	.327	3	.	.873	3	.303
	M2	.175	3	.	1.000	3	1.000
	M3	.175	3	.	1.000	3	1.000

a. Lilliefors Significance Correction

ANOVA

Kadar_RT

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.469	2	2.735	.413	.679
Within Groups	39.689	6	6.615		
Total	45.158	8			

Lampiran 5.2 Uji permeasi secara *in vitro*

Tests of Normality

	Formula	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
In_vitro	M1	.175	3	.	1.000	3	1.000
	M2	.175	3	.	1.000	3	1.000
	M3	.175	3	.	1.000	3	1.000
	Patch	.175	3	.	1.000	3	1.000

a. Lilliefors Significance Correction

ANOVA

In_vitro

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	11188.483	3	3729.494	136.458	.000
Within Groups	218.646	8	27.331		
Total	11407.129	11			

Multiple Comparisons

Dependent Variable: In_vitro
Tukey HSD

(I) Formula	(J) Formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
M1	M2	47.22000*	4.26855	.000	33.5506	60.8894
	M3	48.03000*	4.26855	.000	34.3606	61.6994
	Patch	86.12000*	4.26855	.000	72.4506	99.7894
M2	M1	-47.22000*	4.26855	.000	-60.8894	-33.5506
	M3	.81000	4.26855	.997	-12.8594	14.4794
	Patch	38.90000*	4.26855	.000	25.2306	52.5694
M3	M1	-48.03000*	4.26855	.000	-61.6994	-34.3606
	M2	-.81000	4.26855	.997	-14.4794	12.8594
	Patch	38.09000*	4.26855	.000	24.4206	51.7594
Patch	M1	-86.12000*	4.26855	.000	-99.7894	-72.4506
	M2	-38.90000*	4.26855	.000	-52.5694	-25.2306
	M3	-38.09000*	4.26855	.000	-51.7594	-24.4206

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

Lampiran 5.3 Uji permeasi secara *ex vivo*

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Formula	Statistic	df	Sig.	Statistic	df	Sig.
ex_vivo	M1	.175	3	.	1.000	3	1.000
	M2	.175	3	.	1.000	3	.999
	M3	.175	3	.	1.000	3	1.000
	Patch	.175	3	.	1.000	3	1.000

a. Lilliefors Significance Correction

ANOVA

ex_vivo

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8083.153	3	2694.384	136.354	.000
Within Groups	158.081	8	19.760		
Total	8241.234	11			

Multiple Comparisons

Dependent Variable: ex_vivo
Tukey HSD

(I) Formula	(J) Formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
M1	M2	40.13333*	3.62953	.000	28.5103	51.7564
	M3	40.82000*	3.62953	.000	29.1970	52.4430
	Patch	73.20000*	3.62953	.000	61.5770	84.8230
M2	M1	-40.13333*	3.62953	.000	-51.7564	-28.5103

	M3	.68667	3.62953	.997	-10.9364	12.3097
	Patch	33.06667*	3.62953	.000	21.4436	44.6897
M3	M1	-40.82000*	3.62953	.000	-52.4430	-29.1970
	M2	-.68667	3.62953	.997	-12.3097	10.9364
	Patch	32.38000*	3.62953	.000	20.7570	44.0030
Patch	M1	-73.20000*	3.62953	.000	-84.8230	-61.5770
	M2	-33.06667*	3.62953	.000	-44.6897	-21.4436
	M3	-32.38000*	3.62953	.000	-44.0030	-20.7570

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

Lampiran 5.4 Uji retensi secara *ex vivo*

Tests of Normality

	SEMNs-RT	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Retensi_RT	M1	.175	3	.	1.000	3	1.000
	M2	.175	3	.	1.000	3	1.000
	M3	.175	3	.	1.000	3	1.000
	Patch	.175	3	.	1.000	3	1.000

a. Lilliefors Significance Correction

ANOVA

Retensi_RT

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	23332.956	3	7777.652	346.170	.000
Within Groups	179.742	8	22.468		
Total	23512.698	11			

Multiple Comparisons

Dependent Variable: Retensi_RT

Tukey HSD

(I) SEMNs-RT	(J) SEMNs-RT	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
M1	M2	-85.89000*	3.87020	.000	-98.2838	-73.4962
	M3	-80.89000*	3.87020	.000	-93.2838	-68.4962
	Patch	9.00000	3.87020	.171	-3.3938	21.3938
M2	M1	85.89000*	3.87020	.000	73.4962	98.2838
	M3	5.00000	3.87020	.592	-7.3938	17.3938
	Patch	94.89000*	3.87020	.000	82.4962	107.2838
M3	M1	80.89000*	3.87020	.000	68.4962	93.2838
	M2	-5.00000	3.87020	.592	-17.3938	7.3938
	Patch	89.89000*	3.87020	.000	77.4962	102.2838
Patch	M1	-9.00000	3.87020	.171	-21.3938	3.3938
	M2	-94.89000*	3.87020	.000	-107.2838	-82.4962
	M3	-89.89000*	3.87020	.000	-102.2838	-77.4962

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

Lampiran 6. Hasil uji kinetika pelepasan obat

Lampiran 6.1 *Uji permeasi in vitro*

Lampiran 6.1.1 Model kinetika *Zero-order*

Goodness of Fit				
Parameter	**M1**	**M2**	**M3**	***Patch Control***
N_observed	9	9	9	9
DF	8	8	8	8
R_obs-pre	0,9940	0,9817	0,9784	0,8504
Rsqr	0,9582	0,9139	0,9030	0,6331
Rsqr_adj	0,9582	0,9139	0,9030	0,6331
MSE	51,9519	27,6200	31,7025	5,6870
MSE_root	7,2078	5,2555	5,6305	2,3847
Weighting	1	1	1	1
SS	415,6152	220,9601	253,6201	45,4959
WSS	415,6152	220,9601	253,6201	45,4959
AIC	56,2678	50,5818	51,8225	36,3586
MSC	2,9521	2,2305	2,1104	0,7805

Lampiran 6.1.2 Model kinetika *First-order*

Goodness of Fit				
Parameter	**No.1**	**No.2**	**No.3**	**No.4**
N_observed	9	9	9	9
DF	8	8	8	8
R_obs-pre	0,9293	0,9664	0,9621	0,8459
Rsqr	0,5512	0,8553	0,8424	0,6235
Rsqr_adj	0,5512	0,8553	0,8424	0,6235
MSE	557,4867	46,4489	51,4943	5,8356
MSE_root	23,6112	6,8153	7,1760	2,4157
Weighting	1	1	1	1
SS	4459,8940	371,5913	411,9543	46,6851
WSS	4459,8940	371,5913	411,9543	46,6851
AIC	77,6259	55,2602	56,1882	36,5908
MSC	0,5790	1,7107	1,6253	0,7547

Lampiran 6.1.3 Model kinetika Higuchi

Goodness of Fit				
Parameter	**No.1**	**No.2**	**No.3**	**No.4**
N_observed	9	9	9	9
DF	8	8	8	8
R_obs-pre	0,9644	0,9399	0,9342	0,7751
Rsqr	0,7159	0,6532	0,6398	0,3992
Rsqr_adj	0,7159	0,6532	0,6398	0,3992
MSE	352,8934	111,2986	117,6661	9,3127

MSE_root	18,7855	10,5498	10,8474	3,0517
Weighting	1	1	1	1
SS	2823,1470	890,3891	941,3284	74,5019
WSS	2823,1470	890,3891	941,3284	74,5019
AIC	73,5105	63,1249	63,6256	40,7974
MSC	1,0363	0,8368	0,7989	0,2873

Lampiran 6.1.4 Model kinetika Korsmeyer-Peppas

Goodness of Fit

Parameter	No.1	No.2	No.3	No.4
N_observed	9	9	9	9
DF	7	7	7	7
R_obs-pre	0,9969	0,9985	0,9981	0,8975
Rsqr	0,9920	0,9970	0,9940	0,7613
Rsqr_adj	0,9909	0,9966	0,9931	0,7272
MSE	11,3215	1,0951	2,2471	4,2292
MSE_root	3,3647	1,0465	1,4990	2,0565
Weighting	1	1	1	1
SS	79,250218	7,665429	15,729824	29,604507
WSS	79,250218	7,665429	15,729824	29,604507
AIC	43,353491	22,330484	28,800027	34,491340
MSC	4,387075	5,369544	4,668435	0,987956

Lampiran 6.1.5 Model kinetika Hixson-Crowell

Goodness of Fit

Parameter	No.1	No.2	No.3	No.4
N_observed	9	9	9	9
DF	8	8	8	8
R_obs-pre	0,9758	0,9719	0,9679	0,8474
Rsqr	0,8778	0,8774	0,8651	0,6269
Rsqr_adj	0,8778	0,8774	0,8651	0,6269
MSE	151,7535	39,3594	44,0552	5,7841
MSE_root	12,3188	6,2737	6,6374	2,4050
Weighting	1	1	1	1
SS	1214,0282	314,8752	352,4417	46,2726
WSS	1214,0282	314,8752	352,4417	46,2726
AIC	65,9153	53,7696	54,7840	36,5109
MSC	1,8802	1,8763	1,7813	0,7636

Lampiran 6.2 Uji permeasi *ex vivo*

Lampiran 6.2.1 Model kinetika Zero order

Goodness of Fit				
Parameter	**No.1**	**No.2**	**No.3**	**No.4**
N_observed	9	9	9	9
DF	8	8	8	8
R_obs-pre	0,9902	0,9769	0,9727	0,8519
Rsqr	0,9415	0,8957	0,8836	0,6300
Rsqr_adj	0,9415	0,8957	0,8836	0,6300
MSE	54,8480	25,2415	28,7080	4,2242
MSE_root	7,4059	5,0241	5,3580	2,0553
Weighting	1	1	1	1
SS	438,784208	201,931793	229,664288	33,793220
WSS	438,784208	201,931793	229,664288	33,793220
AIC	56,756070	49,771370	50,929568	33,682342
MSC	2,617321	2,038060	1,928482	0,772002

Lampiran 6.2.2 Model kinetika First order

Goodness of Fit				
Parameter	**No.1**	**No.2**	**No.3**	**No.4**
N_observed	9	9	9	9
DF	8	8	8	8
R_obs-pre	0,9562	0,9634	0,9586	0,8481
Rsqr	0,7821	0,8466	0,8334	0,6219
Rsqr_adj	0,7821	0,8466	0,8334	0,6219
MSE	204,5097	37,1069	41,0955	4,3167
MSE_root	14,3007	6,0915	6,4106	2,0777
Weighting	1	1	1	1
SS	1636,0773	296,8549	328,7638	34,5339
WSS	1636,0773	296,8549	328,7638	34,5339
AIC	68,6005	53,2392	54,1581	33,8775
MSC	1,3013	1,6527	1,5698	0,7503

Lampiran 6.2.3 Model kinetika Higuchi

Goodness of Fit				
Parameter	**No.1**	**No.2**	**No.3**	**No.4**
N_observed	9	9	9	9
DF	8	8	8	8
R_obs-pre	0,9559	0,9310	0,9248	0,7753
Rsqr	0,6899	0,6301	0,6169	0,3946
Rsqr_adj	0,6899	0,6301	0,6169	0,3946
MSE	290,9607	89,4970	94,4749	6,9118
MSE_root	17,0576	9,4603	9,7198	2,6290
Weighting	1	1	1	1

SS	2327,6852	715,9758	755,7992	55,2946
WSS	2327,6852	715,9758	755,7992	55,2946
AIC	71,7737	61,1628	61,6500	38,1141
MSC	0,9487	0,7723	0,7373	0,2796

Lampiran 6.2.4 Model kinetika Korsmeyer-Peppas

Goodness of Fit				
Parameter	**No.1**	**No.2**	**No.3**	**No.4**
N_observed	9	9	9	9
DF	7	7	7	7
R_obs-pre	0,9968	0,9984	0,9971	0,9200
Rsqr	0,9934	0,9957	0,9941	0,8027
Rsqr_adj	0,9925	0,9951	0,9933	0,7745
MSE	7,0495	1,1852	1,6514	2,5743
MSE_root	2,6551	1,0887	1,2851	1,6045
Weighting	1	1	1	1
SS	49,3463	8,2967	11,5598	18,0200
WSS	49,3463	8,2967	11,5598	18,0200
AIC	39,0898	23,0427	26,0278	30,0234
MSC	4,5802	5,0079	4,6953	1,1786

Lampiran 6.2.5 Model kinetika Hixson-Crowell

Goodness of Fit				
Parameter	**No.1**	**No.2**	**No.3**	**No.4**
N_observed	9	9	9	9
DF	8	8	8	8
R_obs-pre	0,9707	0,9682	0,9636	0,8493
Rsqr	0,8543	0,8647	0,8518	0,6247
Rsqr_adj	0,8543	0,8647	0,8518	0,6247
MSE	136,7156	32,7455	36,5409	4,2848
MSE_root	11,6925	5,7224	6,0449	2,0700
Weighting	1	1	1	1
SS	1093,7248	261,9640	292,3269	34,2785
WSS	1093,7248	261,9640	292,3269	34,2785
AIC	64,9761	52,1139	53,1009	33,8107
MSC	1,7040	1,7778	1,6872	0,7577

Lampiran 7. Dokumentasi

Gambar 9. Formulasi SEMNs-RT

Gambar 10. Pengukuran kadar RT

Gambar 11. Uji permeasi secara *ex vivo*

Gambar 12. Ekstraksi RT dari jaringan kulit