

90. Sun JY, Zhang YF, Song XJ, Zhu J, Zhu QS. The healing effects of conditioned medium derived from mesenchymal stem cells on radiation-induced skin wounds in rats. *Cell Transplant*. 2019; 28(1): 105–115.

Lampiran 1. Hasil Kecepatan Penutupan Luka Hari Ke-3, 6, 9 dan 12 Beserta Ekspresi α -SMA Pada Fibrobas

Kelompok	Kecepatan Penutupan Luka (Pixel)				α -SMA hari ke-12 (%)
	Hari-3	Hari-6	Hari-9	Hari-12	
K1	5103	3561	1458	581	1.096
K1	5341	3718	1769	513	1.301
K1	5011	3478	1833	498	1.11
K1	5671	3511	1716	551	2.012
K1	5115	3467	1788	510	1.41
K2	5234	4344	1493	612	2.462
K2	4854	2097	1411	598	4.134
K2	5019	3891	1511	561	2.918
K2	5230	3716	1808	551	3.123
K2	5417	3611	1587	491	4.439
K3	5730	3921	1331	412	11.907
K3	5287	3710	1213	442	9.034
K3	5640	3599	1222	489	12.139
K3	5543	3239	1402	303	10.103
K3	5367	3234	1332	405	12.413
K4	4689	3936	1107	357	17.827
K4	5553	3210	1022	203	15.399
K4	5368	3103	1109	311	14.336
K4	4972	3976	1210	314	15.138
K4	4947	3444	1021	302	15.138

Lampiran2. Hasil SPSS

Case Processing Summary

		Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
Penutupan_luka_H3	K1	5	100.0%	0	.0%	5	100.0%
	K2	5	100.0%	0	.0%	5	100.0%
	K3	5	100.0%	0	.0%	5	100.0%
	K4	5	100.0%	0	.0%	5	100.0%
Penutupan_luka_H6	K1	5	100.0%	0	.0%	5	100.0%
	K2	5	100.0%	0	.0%	5	100.0%
	K3	5	100.0%	0	.0%	5	100.0%
	K4	5	100.0%	0	.0%	5	100.0%
Penutupan_luka_H9	K1	5	100.0%	0	.0%	5	100.0%
	K2	5	100.0%	0	.0%	5	100.0%
	K3	5	100.0%	0	.0%	5	100.0%
	K4	5	100.0%	0	.0%	5	100.0%
Penutupan_luka_H12	K1	5	100.0%	0	.0%	5	100.0%
	K2	5	100.0%	0	.0%	5	100.0%
	K3	5	100.0%	0	.0%	5	100.0%
	K4	5	100.0%	0	.0%	5	100.0%
Alpha_SMA_H12	K1	5	100.0%	0	.0%	5	100.0%
	K2	5	100.0%	0	.0%	5	100.0%
	K3	5	100.0%	0	.0%	5	100.0%
	K4	5	100.0%	0	.0%	5	100.0%

Descriptives

Kelompok			Statistic	Std. Error
Penutupan_luka_H3	K1	Mean	5.2482E3	1.18840E2
		95% Confidence Interval for Mean	Lower Bound 4.9182E3 Upper Bound 5.5782E3	
		5% Trimmed Mean	5.2379E3	
		Median	5.1150E3	
		Variance	7.062E4	
		Std. Deviation	2.65735E2	
		Minimum	5011.00	
		Maximum	5671.00	
		Range	660.00	
		Interquartile Range	449.00	
		Skewness	1.279	.913
		Kurtosis	1.013	2.000
	K2	Mean	5.1508E3	97.34444
		95% Confidence Interval for Mean	Lower Bound 4.8805E3 Upper Bound 5.4211E3	
		5% Trimmed Mean	5.1525E3	
		Median	5.2300E3	
		Variance	4.738E4	
		Std. Deviation	2.17669E2	
		Minimum	4854.00	
		Maximum	5417.00	
		Range	563.00	
		Interquartile Range	389.00	
		Skewness	-.343	.913
		Kurtosis	-.666	2.000
	K3	Mean	5.4334E3	48.59486
		95% Confidence Interval for Mean	Lower Bound 5.2985E3 Upper Bound 5.5683E3	
		5% Trimmed Mean	5.4354E3	
		Median	5.4400E3	
		Variance	1.181E4	
		Std. Deviation	1.08661E2	
		Minimum	5287.00	
		Maximum	5543.00	
		Range	256.00	
		Interquartile Range	209.50	

		Skewness	-.394	.913
		Kurtosis	-1.632	2.000
K4	Mean		5.1058E3	1.55817E2
	95% Confidence Interval for Mean	Lower Bound	4.6732E3	
		Upper Bound	5.5384E3	
	5% Trimmed Mean		5.1041E3	
	Median		4.9720E3	
	Variance		1.214E5	
	Std. Deviation		3.48417E2	
	Minimum		4689.00	
	Maximum		5553.00	
	Range		864.00	
	Interquartile Range		642.50	
	Skewness		.282	.913
	Kurtosis		-1.566	2.000
Penutupan luka_H6 K1	Mean		3.5470E3	45.76789
	95% Confidence Interval for Mean	Lower Bound	3.4199E3	
		Upper Bound	3.6741E3	
	5% Trimmed Mean		3.5419E3	
	Median		3.5110E3	
	Variance		1.047E4	
	Std. Deviation		1.02340E2	
	Minimum		3467.00	
	Maximum		3718.00	
	Range		251.00	
	Interquartile Range		167.00	
	Skewness		1.600	.913
	Kurtosis		2.488	2.000
K2	Mean		3.5318E3	3.79970E2
	95% Confidence Interval for Mean	Lower Bound	2.4768E3	
		Upper Bound	4.5868E3	
	5% Trimmed Mean		3.5664E3	
	Median		3.7160E3	
	Variance		7.219E5	
	Std. Deviation		8.49639E2	
	Minimum		2097.00	
	Maximum		4344.00	
	Range		2247.00	
	Interquartile Range		1263.50	
	Skewness		-1.607	.913

		Kurtosis	3.252	2.000
	K3	Mean	3.5406E3	1.34495E2
		95% Confidence Interval for Mean	Lower Bound 3.1672E3 Upper Bound 3.9140E3	
		5% Trimmed Mean	3.5365E3	
		Median	3.5990E3	
		Variance	9.044E4	
		Std. Deviation	3.00740E2	
		Minimum	3234.00	
		Maximum	3921.00	
		Range	687.00	
		Interquartile Range	579.00	
		Skewness	.059	.913
		Kurtosis	-2.058	2.000
	K4	Mean	3.5338E3	1.81081E2
		95% Confidence Interval for Mean	Lower Bound 3.0310E3 Upper Bound 4.0366E3	
		5% Trimmed Mean	3.5332E3	
		Median	3.4440E3	
		Variance	1.640E5	
		Std. Deviation	4.04909E2	
		Minimum	3103.00	
		Maximum	3976.00	
		Range	873.00	
		Interquartile Range	799.50	
		Skewness	.232	.913
		Kurtosis	-2.889	2.000
Penutupan_luka_H9	K1	Mean	1.7128E3	66.40587
		95% Confidence Interval for Mean	Lower Bound 1.5284E3 Upper Bound 1.8972E3	
		5% Trimmed Mean	1.7203E3	
		Median	1.7690E3	
		Variance	2.205E4	
		Std. Deviation	1.48488E2	
		Minimum	1458.00	
		Maximum	1833.00	
		Range	375.00	
		Interquartile Range	223.50	
		Skewness	-1.808	.913
		Kurtosis	3.482	2.000
	K2	Mean	1.5620E3	67.56626

		95% Confidence Interval for Mean	Lower Bound	1.3744E3	
			Upper Bound	1.7496E3	
		5% Trimmed Mean		1.5567E3	
		Median		1.5110E3	
		Variance		2.283E4	
		Std. Deviation		1.51083E2	
		Minimum		1411.00	
		Maximum		1808.00	
		Range		397.00	
		Interquartile Range		245.50	
		Skewness		1.329	.913
		Kurtosis		2.105	2.000
	K3	Mean		1.3000E3	36.08462
		95% Confidence Interval for Mean	Lower Bound	1.1998E3	
			Upper Bound	1.4002E3	
		5% Trimmed Mean		1.2992E3	
		Median		1.3310E3	
		Variance		6.510E3	
		Std. Deviation		8.06877E1	
		Minimum		1213.00	
		Maximum		1402.00	
		Range		189.00	
		Interquartile Range		149.50	
		Skewness		-.007	.913
		Kurtosis		-1.969	2.000
	K4	Mean		1.0938E3	34.90186
		95% Confidence Interval for Mean	Lower Bound	9.9690E2	
			Upper Bound	1.1907E3	
		5% Trimmed Mean		1.0914E3	
		Median		1.1070E3	
		Variance		6.091E3	
		Std. Deviation		7.80429E1	
		Minimum		1021.00	
		Maximum		1210.00	
		Range		189.00	
		Interquartile Range		138.00	
		Skewness		.718	.913
		Kurtosis		-.012	2.000
Penutupan _luka_H12	K1	Mean		5.3060E2	15.41623
		95% Confidence Interval for Mean	Lower Bound	4.8780E2	
			Upper Bound	5.7340E2	

	5% Trimmed Mean		5.2961E2	
	Median		5.1300E2	
	Variance		1.188E3	
	Std. Deviation		3.44717E1	
	Minimum		498.00	
	Maximum		581.00	
	Range		83.00	
	Interquartile Range		62.00	
	Skewness		.892	.913
	Kurtosis		-.891	2.000
K2	Mean		5.6260E2	21.16270
	95% Confidence Interval for Mean	Lower Bound	5.0384E2	
		Upper Bound	6.2136E2	
	5% Trimmed Mean		5.6383E2	
	Median		5.6100E2	
	Variance		2.239E3	
	Std. Deviation		4.73212E1	
	Minimum		491.00	
	Maximum		612.00	
	Range		121.00	
	Interquartile Range		84.00	
	Skewness		-.801	.913
	Kurtosis		.432	2.000
K3	Mean		4.1020E2	30.61274
	95% Confidence Interval for Mean	Lower Bound	3.2521E2	
		Upper Bound	4.9519E2	
	5% Trimmed Mean		4.1178E2	
	Median		4.1200E2	
	Variance		4.686E3	
	Std. Deviation		6.84522E1	
	Minimum		303.00	
	Maximum		489.00	
	Range		186.00	
	Interquartile Range		111.50	
	Skewness		-.923	.913
	Kurtosis		1.772	2.000
K4	Mean		2.9740E2	25.44130
	95% Confidence Interval for Mean	Lower Bound	2.2676E2	
		Upper Bound	3.6804E2	
	5% Trimmed Mean		2.9933E2	
	Median		3.1100E2	

		Variance	3.236E3	
		Std. Deviation	5.68885E1	
		Minimum	203.00	
		Maximum	357.00	
		Range	154.00	
		Interquartile Range	83.00	
		Skewness	-1.408	.913
		Kurtosis	2.997	2.000
Alpha_SM A_H12	K1	Mean	1.38580	.167325
	95% Confidence Interval for Mean	Lower Bound	.92123	
		Upper Bound	1.85037	
	5% Trimmed Mean		1.36711	
	Median		1.30100	
	Variance		.140	
	Std. Deviation		.374150	
	Minimum		1.096	
	Maximum		2.012	
	Range		.916	
	Interquartile Range		.608	
	Skewness		1.588	.913
	Kurtosis		2.630	2.000
	K2	Mean	3.41520	.374568
	95% Confidence Interval for Mean	Lower Bound	2.37523	
		Upper Bound	4.45517	
	5% Trimmed Mean		3.41128	
	Median		3.12300	
	Variance		.702	
	Std. Deviation		.837559	
	Minimum		2.462	
	Maximum		4.439	
	Range		1.977	
	Interquartile Range		1.596	
	Skewness		.305	.913
	Kurtosis		-2.261	2.000
	K3	Mean	1.11192E1	.660124
	95% Confidence Interval for Mean	Lower Bound	9.28640	
		Upper Bound	1.29520E1	
	5% Trimmed Mean		1.11632E1	
	Median		1.19070E1	
	Variance		2.179	
		Std. Deviation	1.476081E0	

	Minimum		9.034	
	Maximum		12.413	
	Range		3.379	
	Interquartile Range		2.707	
	Skewness		-.829	.913
	Kurtosis		-1.617	2.000
K4	Mean		1.55676E1	.592422
	95% Confidence Interval for Mean	Lower Bound	1.39228E1	
		Upper Bound	1.72124E1	
	5% Trimmed Mean		1.55105E1	
	Median		1.51380E1	
	Variance		1.755	
	Std. Deviation		1.324695E0	
	Minimum		14.336	
	Maximum		17.827	
	Range		3.491	
	Interquartile Range		1.876	
	Skewness		1.703	
	Kurtosis		3.540	

Tests of Normality

	Kelompok	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Penutupan_luka_H3	K1	.292	5	.190	.871	5	.272
	K2	.242	5	.200*	.958	5	.794
	K3	.213	5	.200*	.929	5	.591
	K4	.250	5	.200*	.941	5	.671
Penutupan_luka_H6	K1	.246	5	.200*	.833	5	.148
	K2	.337	5	.065	.844	5	.176
	K3	.242	5	.200*	.899	5	.404
	K4	.240	5	.200*	.870	5	.267
Penutupan_luka_H9	K1	.309	5	.135	.806	5	.091
	K2	.234	5	.200*	.899	5	.406
	K3	.250	5	.200*	.889	5	.353
	K4	.223	5	.200*	.882	5	.320
Penutupan_luka_H12	K1	.295	5	.178	.891	5	.360
	K2	.203	5	.200*	.940	5	.667
	K3	.270	5	.200*	.937	5	.648
	K4	.332	5	.075	.856	5	.213
Alpha_SMA_H12	K1	.274	5	.200*	.829	5	.136
	K2	.236	5	.200*	.921	5	.536

K3	.303	5	.149	.860	5	.227
K4	.351	5	.044	.809	5	.096

a. Lilliefors Significance Correction

*. This is a lower bound of the true significance.

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Penutupan_luka_H3	2.631	3	16	.086
Penutupan_luka_H6	2.475	3	16	.099
Penutupan_luka_H9	.636	3	16	.603
Penutupan_luka_H12	.212	3	16	.886
Alpha_SMA_H12	2.954	3	16	.064

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Penutupan_luka_H3	Between Groups	316591.350	3	105530.450	1.680	.211
	Within Groups	1004787.600	16	62799.225		
	Total	1321378.950	19			
Penutupan_luka_H6	Between Groups	717.400	3	239.133	.001	1.000
	Within Groups	3947022.800	16	246688.925		
	Total	3947740.200	19			
Penutupan_luka_H9	Between Groups	1133348.950	3	377782.983	26.292	.000
	Within Groups	229903.600	16	14368.975		
	Total	1363252.550	19			
Penutupan_luka_H12	Between Groups	220228.800	3	73409.600	25.872	.000
	Within Groups	45398.400	16	2837.400		
	Total	265627.200	19			
Alpha_SMA_H12	Between Groups	658.502	3	219.501	183.870	.000
	Within Groups	19.100	16	1.194		
	Total	677.603	19			

Post Hoc Tests

Multiple Comparisons

LSD

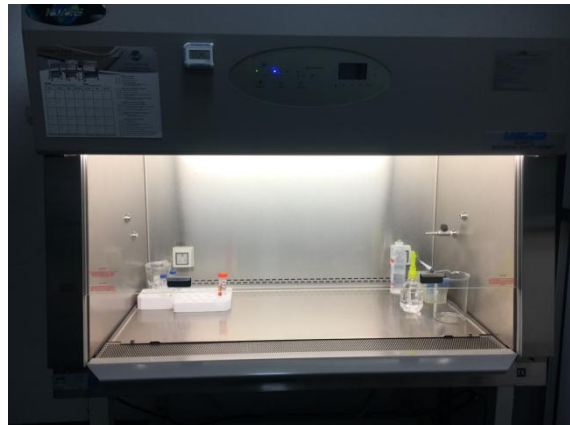
Dependent Variable	(I) Kelomp ok	(J) Kelomp ok	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Penutupan_l uka_H3	K1	K2	97.40000	1.65383E2	.564	-253.1973	447.9973
		K3	-265.20000	1.65383E2	.128	-615.7973	85.3973
		K4	142.40000	1.65383E2	.402	-208.1973	492.9973
	K2	K1	-97.40000	1.65383E2	.564	-447.9973	253.1973
		K3	-362.60000*	1.65383E2	.043	-713.1973	-12.0027
		K4	45.00000	1.65383E2	.789	-305.5973	395.5973
	K3	K1	265.20000	1.65383E2	.128	-85.3973	615.7973
		K2	362.60000*	1.65383E2	.043	12.0027	713.1973
		K4	407.60000*	1.65383E2	.025	57.0027	758.1973
	K4	K1	-142.40000	1.65383E2	.402	-492.9973	208.1973
		K2	-45.00000	1.65383E2	.789	-395.5973	305.5973
		K3	-407.60000*	1.65383E2	.025	-758.1973	-57.0027
Penutupan_l uka_H6	K1	K2	15.20000	3.14127E2	.962	-650.7188	681.1188
		K3	6.40000	3.14127E2	.984	-659.5188	672.3188
		K4	13.20000	3.14127E2	.967	-652.7188	679.1188
	K2	K1	-15.20000	3.14127E2	.962	-681.1188	650.7188
		K3	-8.80000	3.14127E2	.978	-674.7188	657.1188
		K4	-2.00000	3.14127E2	.995	-667.9188	663.9188
	K3	K1	-6.40000	3.14127E2	.984	-672.3188	659.5188
		K2	8.80000	3.14127E2	.978	-657.1188	674.7188
		K4	6.80000	3.14127E2	.983	-659.1188	672.7188
	K4	K1	-13.20000	3.14127E2	.967	-679.1188	652.7188
		K2	2.00000	3.14127E2	.995	-663.9188	667.9188
		K3	-6.80000	3.14127E2	.983	-672.7188	659.1188
Penutupan_l uka_H9	K1	K2	150.80000	75.81286	.064	-9.9161	311.5161
		K3	412.80000*	75.81286	.000	252.0839	573.5161
		K4	619.00000*	75.81286	.000	458.2839	779.7161
	K2	K1	-150.80000	75.81286	.064	-311.5161	9.9161
		K3	262.00000*	75.81286	.003	101.2839	422.7161
		K4	468.20000*	75.81286	.000	307.4839	628.9161
	K3	K1	-412.80000*	75.81286	.000	-573.5161	-252.0839
		K2	-262.00000*	75.81286	.003	-422.7161	-101.2839
		K4	206.20000*	75.81286	.015	45.4839	366.9161
	K4	K1	-619.00000*	75.81286	.000	-779.7161	-458.2839

	K2	-468.20000*	75.81286	.000	-628.9161	-307.4839
	K3	-206.20000*	75.81286	.015	-366.9161	-45.4839
Penutupan_l uka_H12	K2	-32.00000	33.68917	.356	-103.4178	39.4178
	K3	120.40000*	33.68917	.003	48.9822	191.8178
	K4	233.20000*	33.68917	.000	161.7822	304.6178
	K2	K1	32.00000	.356	-39.4178	103.4178
		K3	152.40000*	.000	80.9822	223.8178
		K4	265.20000*	.000	193.7822	336.6178
	K3	K1	-120.40000*	.003	-191.8178	-48.9822
		K2	-152.40000*	.000	-223.8178	-80.9822
		K4	112.80000*	.004	41.3822	184.2178
	K4	K1	-233.20000*	.000	-304.6178	-161.7822
		K2	-265.20000*	.000	-336.6178	-193.7822
		K3	-112.80000*	.004	-184.2178	-41.3822
Alpha_SM A_H12	K2	-2.029400*	.691023	.010	-3.49430	-.56450
	K3	-9.733400*	.691023	.000	-11.19830	-8.26850
	K4	-14.181800*	.691023	.000	-15.64670	-12.71690
	K2	K1	2.029400*	.010	.56450	3.49430
		K3	-7.704000*	.000	-9.16890	-6.23910
		K4	-12.152400*	.000	-13.61730	-10.68750
	K3	K1	9.733400*	.000	8.26850	11.19830
		K2	7.704000*	.000	6.23910	9.16890
		K4	-4.448400*	.000	-5.91330	-2.98350
	K4	K1	14.181800*	.000	12.71690	15.64670
		K2	12.152400*	.000	10.68750	13.61730
		K3	4.448400*	.000	2.98350	5.91330

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

Lampiran 3. Dokumentasi Penelitian

(a) Instrumen bedah



(b) Biosafety Cabinet class 2



(c) Bulu tikus yang dicukur



(d) Obat-obatan sedasi



(e) Injeksi sedasi



(f) Pembuatan luka dengan *punch biopsy*



(g) Pengambilan jaringan



(h) Injeksi MSC hipoksia



(i) Kelompok K1



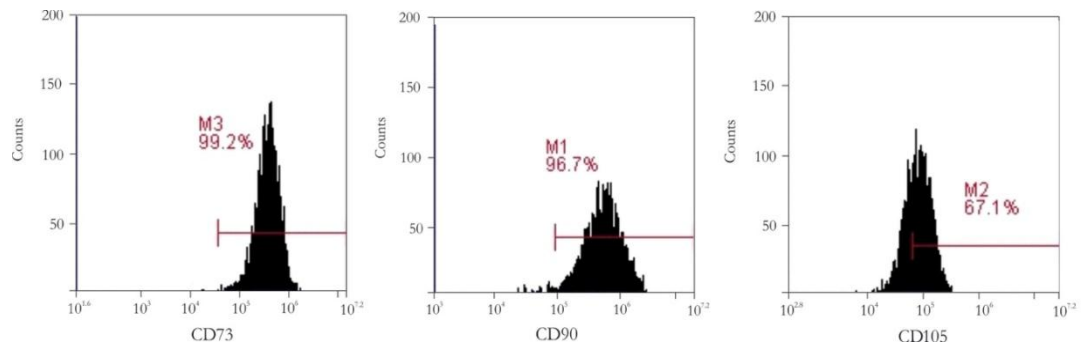
(j) Kelompok K2



(k) Kelompok K3



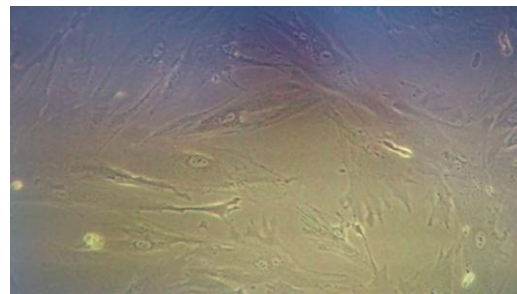
(l) Kelompok K4



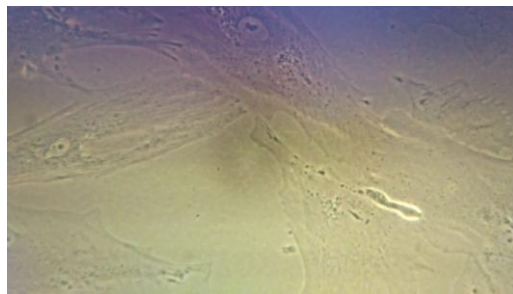
(m) Deteksi oleh *flow cytometric* menunjukkan ekspresi positif dari tiga penanda MSC. Populasi 99,2% positif untuk CD73, 96,7% positif untuk CD90 dan 67,1% positif untuk CD105.



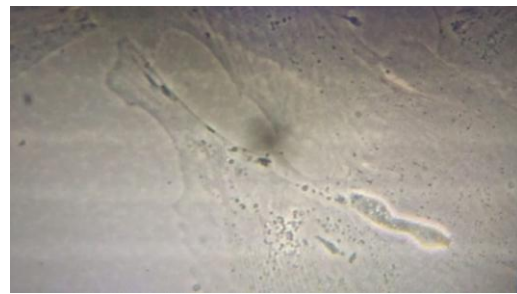
(n) MSC non Hipoksia, perbesaran 4x



(o) MSC non Hipoksia, perbesaran 10x



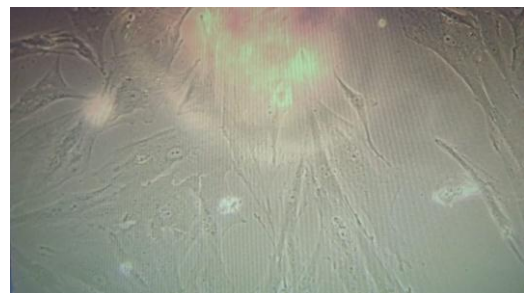
(p) MSC non Hipoksia, perbesaran 20x



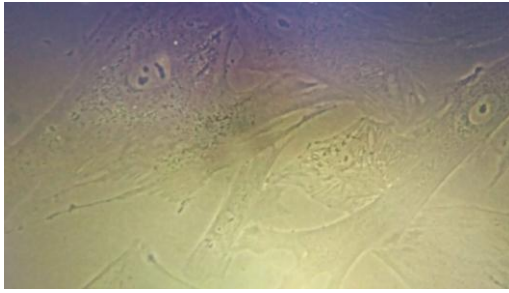
(q) MSC non Hipoksia, perbesaran 40x



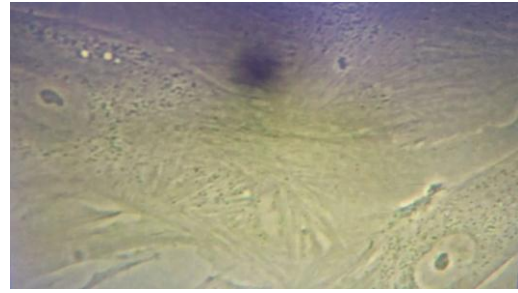
(r) MSC Hipoksia, perbesaran 4x



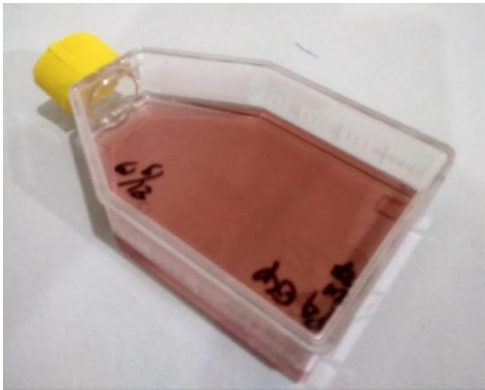
(s) MSC Hipoksia, perbesaran 10x



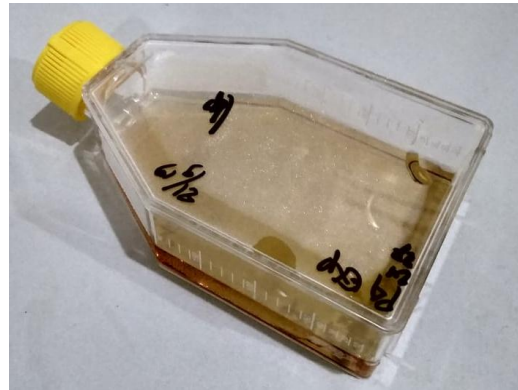
(t) MSC Hipoksia, perbesaran 20x



(u) MSC Hipoksia, perbesaran 40x



(v) MSC + medium sebelum hipoksia



(w) MSC + medium setelah hipoksia



(x) *Chamber* hipoksia

Lampiran 4. Ethical Clearance

KOMISI BIOETIKA PENELITIAN KEDOKTERAN/KESEHATAN FAKULTAS KEDOKTERAN

UNIVERSITAS ISLAM SULTAN AGUNG SEMARANG

Sekretariat : Gedung C Lantai I Fakultas Kedokteran Unissula
Jl. Raya Kaligawe Km 4 Semarang, Telp. 024-6583584, Fax 024-6594366

Ethical Clearance

No. 662/X/2019/Komisi Bioetik

Komisi Bioetika Penelitian Kedokteran/Kesehatan Fakultas Kedokteran Universitas Islam Sultan Agung Semarang, setelah melakukan pengkajian atas usulan penelitian yang berjudul :

PENGARUH MSC HIPOKSIA TERHADAP KECEPATAN PENUTUPAN LUKA DAN EKSPRESI α -SMA PADA FIBROBLAS (Studi *In Vivo* Pada Tikus Galur Wistar Yang Dieksisi)

Peneliti Utama : Nur Fitriani Hamra
Pembimbing : Dr. dr. Agung Putra, M.Si. Med
Dr. dr. Hj. Chodidjah, M.Kes. PA
Tempat Penelitian : Laboratorium Stem Cell And Cancer Reasearch (SCCR) Fakultas Kedokteran UNISSULA

dengan ini menyatakan bahwa usulan penelitian diatas telah memenuhi prasyarat etik penelitian. Oleh karena itu Komisi Bioetika merekomendasikan agar penelitian ini dapat dilaksanakan dengan mempertimbangkan prinsip-prinsip yang dinyatakan dalam Deklarasi Helsinki dan panduan yang tertuang dalam Pedoman Nasional Etik Penelitian Kesehatan (PNEPK) Departemen Kesehatan RI tahun 2004.

Semarang, 1 Oktober 2019

Komisi Bioetika Penelitian Kedokteran/Kesehatan
Fakultas Kedokteran Unissula

Ketua,



(dr. Sofwan Dahlan, Sp.F(K))

Lampiran 5. Surat Keterangan Penelitian



Stem Cell and Cancer Research

Kaligawe raya Km 4, IBL Building, Unissula, Semarang 50112
Telp. (024) 6583584 Extension Laboratorium 600 Extension SCCR 125
www.sccr.id | info@sccr.id



SURAT KETERANGAN No.003/SCCR /XII/2019

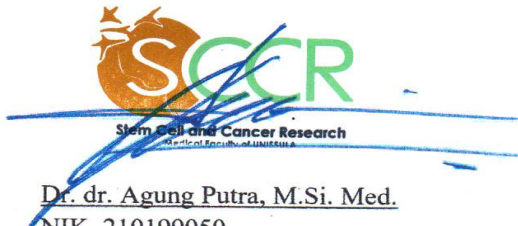
Yang bertanda tangan di bawah ini Kepala Laboratorium SCCR, Fakultas Kedokteran Unissula menerangkan bahwa mahasiswa berikut :

Nama : Nur Fitriani Hamra
NIM : MBK.17.10.01.0122
Fakultas : Magister Ilmu Biomedik Fakultas Kedokteran
Universitas : Universitas Islam Sultan Agung Semarang.
Judul Tesis : PENGARUH MSC HIPOKSIA TERHADAP KECEPATAN PENUTUPAN LUKA DAN EKSPRESI α -SMA PADA FIBROBLAS (STUDI *IN VIVO* PADA TIKUS GALUR *WISTAR* YANG DI EKSISI).

Benar-benar telah selesai melakukan penelitian di Laboratorium SCCR Fakultas Kedokteran UNISSULA Semarang pada Oktober - Desember 2019 dengan hasil terlampir.

Demikian surat keterangan ini dibuat untuk dapat dipergunakan seperlunya.

Semarang, 27 Desember 2019
Mengetahui,
Kepala Laboratorium SCCR
Fakultas Kedokteran UNISSULA

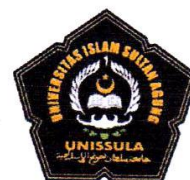


Dr. dr. Agung Putra, M.Si. Med.
NIK. 210199050



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SURAT KETERANGAN

No.003/SCCR /XII/2019

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Benar-benar telah selesai melakukan penelitian dengan metode Immunoflourescene di Laboratorium SCCR Fakultas Kedokteran UNISSULA Semarang pada Oktober - Desember 2019 dengan hasil terlampir.

Demikian surat keterangan ini dibuat untuk dapat dipergunakan seperlunya.

Semarang, 27 Desember 2019
Mengetahui,
Kepala Laboratorium SCCR
Fakultas Kedokteran UNISSULA



Dr. dr. Agung Putra, M.Si. Med.
NIK. 210199050



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Lampiran : HASIL PEMBACAAN LUASAN LUKA

Nama : Nur Fitriani Hamra

NIM : MBK.17.10.01.0122

Judul Skripsi : PENGARUH MSC HIPOKSIA TERHADAP KECEPATAN PENUTUPAN LUKA DAN EKSPRESI α -SMA PADA FIBROBLAS (STUDI *IN VIVO* PADA TIKUS GALUR WISTAR YANG DI EKSISI).

Sampel	Luasan Luka			
	Hari-3	Hari-6	Hari-9	Hari-12
MSA1	5730	3921	1331	412
MSA2	5124	3477	1376	596
MSA3	5287	3710	1213	442
MSA4	5640	3599	1222	489
MSA5	5543	3239	1402	303
MSB1	4689	3936	1107	405
MSB2	5553	3210	1022	357
MSB3	5368	3103	1109	203
MSB4	4972	3976	1210	311
MSB5	4947	3444	1021	314
KMS1	5234	4344	1493	302
KMS2	4854	2097	1411	392
KMS3	5019	3891	1511	612
KMS4	5230	3716	1808	598
KMS5	5417	3611	1587	561
Sham1	5103	3561	1458	551
Sham2	5341	3718	1769	491
Sham3	5011	3478	1833	581
Sham4	5671	3511	1761	513
Sham5	5115	3467	1788	498

Semarang, 27 Desember 2019

Mengetahui,

Kepala Laboratorium SCCR

Fakultas Kedokteran UNISSULA



Dr. dr. Agung Putra, M.Si. Med.

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Lampiran : HASIL PEMBACAAN Alpha SMA

Nama : Nur Fitriani Hamra

NIM : MBK.17.10.01.0122

Judul Skripsi : PENGARUH MSC HIPOKSIA TERHADAP KECEPATAN PENUTUPAN
LUKA DAN EKSPRESI α -SMA PADA FIBROBLAS (STUDI *IN VIVO* PADA TIKUS GALUR
WISTAR YANG DI EKSISI).

Presentase Alpha SMA	Sham	KMS	MSA	MSB
Tikus 1	1,096	2,462	11,907	17,827
Tikus 2	1,301	4,134	9,034	15,399
Tikus 3	1,110	2,918	12,139	14,336
Tikus 4	2,012	3,123	10,103	15,138
Tikus 5	1,410	4,439	12,413	15,138

Semarang, 27 Desember 2019

Mengetahui,

Kepala Laboratorium SCCR

Fakultas Kedokteran UNISSULA



Dr. dr. Agung Putra, M.Si. Med.

NIK. 210199050