Table A. Data regarding donor used to generate hMSCs for each series

	Donor No.	**Donor Gender**	**Donor Age**
Series 1: Efficacy of hMSC in E. coli induced lung injury	H2	Female	22
Series 2 – Determination of the lowest effective hMSC dose	H5	Male	23
Series 3 – Determination of optimal route of hMSC delivery	H3	Male	20
Series 4 – Efficacy of cryopreserved hMSC	H24	Male	21
Series 5 – Efficacy of the hMSC secretome	H18	Male	26

Table B. Series 1 - Efficacy of hMSC in E. coli induced lung injury

Variable	Vehicle	$10x10^6$/kg hMSC	$20x10^6$/kg hMSC	Fibroblast
Animal Weight pre-injury(g)	424 ± 35	419 ± 36	377 ± 27	388 ± 41
Final (48hr) Animal Weight (g)	382 ± 32	377 ± 37	338 ± 28	341 ± 42
Arterial pH	7.30 ± 0.05	7.32 ± 0.06	7.33 ± 0.03	7.34 ± 0.04
Arterial CO_2 tension (kPa)	5.02 ± 0.78	4.85 ± 1.0	3.91 ± 0.5	4.5 ± 0.2
Serum Bicarbonate (mmol/L)	18.2 ± 1.2	18.0 ± 1.3	17.2 ± 1.0	20.0 ± 1.8
Base Excess (mmol/l)	-7.4 ± 1.7	-9.6 ± 1.5	-7.6 ± 1.1	-1.3 ± 1.8
Lactate (mmol/L)	2.1 ± 1.3	2.4 ± 1.4	5.0 ± 1.3	1.3 ± 0.5
Mean Arterial Pressure (mmHg)	85 ± 15	78 ± 22	81 ± 11	75 ± 19
Heart Rate (beats/min)	320 ± 29	317 ± 15	325 ± 27	338 ± 29
Blood E. Coli Counts (counts/ml)	110 [60, 183]	50 [43, 60]	60 [30, 108]	35 [10, 113]
BAL IL-1β concentration (pg/ml)	1024 [677, 1880]	1194 [866, 1979]	1070 [845, 1172]	3016 [1714, 4217]
BAL TNF-α concentration (pg/ml)	122 [72, 212]	134 [83, 221]	125 [59, 197]	128 [63, 150]
BAL CINC-1 concentration (pg/ml)	1639 [858, 1885]	521 [383, 697]*	384 [303, 528]*	431 [275, 535]

Notes: Data are expressed as mean±SD or as median [Interquartile range] or as number (%).
*Significantly different from Vehicle ($P < 0.05$).

Table C. Series 2 – Determination of the lowest effective hMSC dose

Variable	Vehicle	$10x10^6$/kg hMSC	$5x10^6$/kg hMSC	$2x10^6$/kg hMSC
Animal Weight pre-injury(g)	356 ± 29	358 ± 21	381 ± 38	368 ± 36
Final (48hr) Animal Weight (g)	311 ± 32	312 ± 25	336 ± 41	322 ± 33
Arterial pH	7.35 ± 0.04	7.40 ± 0.07	7.39 ± 0.05	7.39 ± 0.07
Arterial CO_2 tension (kPa)	4.8 ± 0.9	4.2 ± 0.5	4.8 ± 0.4	4.8 ± 1.0
Serum Bicarbonate (mmol/L)	21.4 ± 1.5	22.2 ± 3.0	22.2 ± 3.2	22.8 ± 5.7
Base Excess (mmol/l)	-3.3 ± 1.9	-3.9 ± 3.7	-3.1 ± 3.3	-4.2 ± 4.1
Lactate (mmol/L)	1.1 ± 0.4	1.8 ± 0.7	1.5 ± 1.1	1.8 ± 1.8
Mean Arterial Pressure (mmHg)	85 ± 22	78 ± 13	86 ± 19	84 ± 12
Heart Rate (beats/min)	336 ± 35	316 ± 27	341 ± 29	338 ± 16
Blood E. Coli Counts (counts/ml)	80 [10, 825]	10 [10, 18]	10 [10, 130]	15 [10, 20]
BAL IL-1β concentration (pg/ml)	596 [571, 682]	542 [517, 557]*	643 [585, 723]	651 [596, 727]
BAL TNF-α concentration (pg/ml)	61 [61, 64]	69 [64, 70]	69 [67, 71]	69 [67, 73]
BAL CINC-1 concentration (pg/ml)	888 [719, 1002]	810 [696, 1089]	653 [587, 875]	762 [705, 954]

Notes: Data are expressed as mean±SD or as median [Interquartile range] or as number (%).
*Significantly different from Vehicle ($P < 0.05$).

Table D. Series 3 – Determination of optimal route of hMSC delivery

Variable	IV Vehicle	hMSC IV	hMSC IT	IT Vehicle
Animal Weight pre-injury(g)	372 ± 43	387 ± 35	384 ± 52	422 ± 35
Final (48hr) Animal Weight (g)	333 ± 42	347 ± 35	341 ± 54	379 ± 34
Arterial pH	7.30 ± 0.09	7.35 ± 0.06	7.33 ± 0.05	7.30 ± 0.1
Arterial CO_2 tension (kPa)	5.3 ± 1.0	4.7 ± 0.8	4.3 ± 0.7	5.5 ± 1.3
Serum Bicarbonate (mmol/L)	15.7 ± 2.9	19.7 ± 2.3	18.4 ± 2.4	17.0 ± 2.7
Base Excess (mmol/l)	-9.8 ± 3.9	-5.8 ± 3.0	-8.6 ± 3.0	-8.1 ± 3.3
Lactate (mmol/L)	5.6 ± 2.3	3.8 ± 1.6	4.9 ± 0.9	6.7 ± 3.8
Mean Arterial Pressure (mmHg)	82 ± 20	85 ± 14	81 ± 14	76 ± 18
Heart Rate (beats/min)	332 ± 28	309 ± 29	301 ± 44	308 ± 32
Blood E. Coli Counts (counts/ml)	65 [18, 178]	65 [45, 103]	40 [30, 73]	60 [50, 80]
BAL IL-1β concentration (pg/ml)	817 [631, 1315]	1515 [883, 2325]	1636 [1086, 2043]	1107 [855, 4039]
BAL TNF-α concentration (pg/ml)	49 [21, 101]	85 [50, 205]	82 [54, 120]	265 [181, 357]
BAL CINC-1 concentration (pg/ml)	788 [402, 1334]	281 [223, 428]*	528 [365, 898]*	1225 [632, 2189]

Notes: Data are expressed as mean±SD or as median [Interquartile range] or as number (%).
*Significantly different from Vehicle (P <0.05).

Table E. Series 4 – Efficacy of cryopreserved hMSC

Variable	IV Vehicle	Fresh hMSC	Thawed hMSC	Washed hMSC
Animal Weight pre-injury(g)	396 ± 31	398 ± 28	415 ± 27	408 ± 33
Final (48hr) Animal Weight (g)	354 ± 32	353 ± 28	368 ± 29	366 ± 38
Arterial pH	7.40 ± 0.08	7.41 ± 0.08	7.44 ± 0.06	7.38 ± 0.08
Arterial CO_2 tension (kPa)	4.3 ± 0.4	4.0 ± 0.5	4.0 ± 0.4	4.1 ± 0.6
Serum Bicarbonate (mmol/L)	21.7 ± 4.0	22.1 ± 3.8	23.4 ± 2.0	21.4 ± 3.5
Base Excess (mmol/l)	-2.2 ± 2.2	-3.1 ± 2.5	-1.7 ± 1.8	-2.3 ± 1.2
Lactate (mmol/L)	3.5 ± 1.3	4.7 ± 1.5	4.8 ± 1.0	4.1 ± 1.3
Mean Arterial Pressure (mmHg)	96 ± 11	94 ± 29	99 ± 16	97 ± 9
Heart Rate (beats/min)	313 ± 36	320 ± 24	311 ± 26	345 ± 40
Blood E. Coli Counts (counts/ml)	80 [20, 250]	65 [13, 118]	105 [23, 223]	95 [10, 208]
BAL IL-1β concentration (pg/ml)	2307 [1547, 4038]	1262 [1116, 2702]	2272 [1383, 3250]	1374 [795, 3000]
BAL TNF-α concentration (pg/ml)	96 [45, 135]	118 [98, 150]	116 [11, 145]	136 [80, 170]
BAL CINC-1 concentration (pg/ml)	2378 [2090, 2470]	1931 [1196, 2075]*	2528 [1735, 2658]	2605 [2268, 2666]

Notes: Data are expressed as mean±SD or as median [Interquartile range] or as number (%).
*Significantly different from Vehicle ($P < 0.05$).

Table F. Series 5 – Efficacy of the hMSC secretome

Variable	Vehicle	hMSC	CM-24hr	CM-48hr
Animal Weight pre-injury(g)	383 ± 14	394 ± 18	379 ± 4	398 ± 16
Final (48hr) Animal Weight (g)	337 ± 9	349 ± 16	338 ± 12	351 ± 13
Arterial pH	7.40 ± 0.02	7.40 ± 0.03	7.39 ± 0.05	7.40 ± 0.02
Arterial CO_2 tension (kPa)	4.1 ± 0.7	4.2 ± 0.3	4.3 ± 0.7	4.3 ± 0.6
Serum Bicarbonate (mmol/L)	21.2 ± 2.0	22.4 ± 2.2	21.6 ± 2.6	23.3 ± 1.5
Base Excess (mmol/l)	-4.6 ± 2.8	-2.5 ± 2.2	-3.9 ± 2.5	-1.6 ± 1.6
Lactate (mmol/L)	5.7 ± 2.9	3.2 ± 0.8	4.4 ± 2.5	5.2 ± 1.2
Mean Arterial Pressure (mmHg)	94 ± 24	117 ± 17	99 ± 29	87 ± 14
Heart Rate (beats/min)	306 ± 26	331 ± 34	318 ± 25	321 ± 23
Blood E. Coli Counts (counts/ml)	40 [10, 80]	50 [18, 100]	100 [55, 225]	25 [10, 58]
BAL IL-1β concentration (pg/ml)	853 [807, 921]	462 [410, 497]*	613 [563, 886]	1711 [749, 2750]
BAL TNF-α concentration (pg/ml)	145 [113, 173]	115 [110, 137]	138 [109, 165]	113 [90, 134]
BAL CINC-1 concentration (pg/ml)	404 [389, 438]	317 [266, 350]*	357 [297, 464]	481 [377, 608]

Notes: Data are expressed as mean±SD or as median [Interquartile range] or as number (%).
*Significantly different from Vehicle ($P < 0.05$).