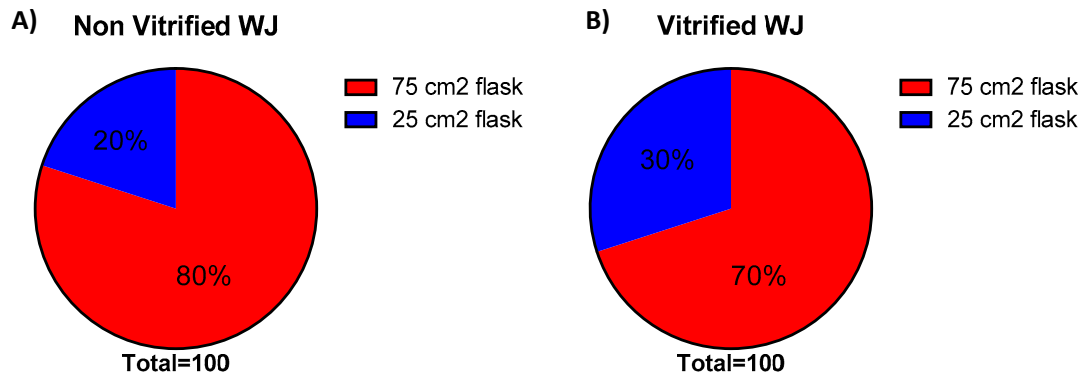
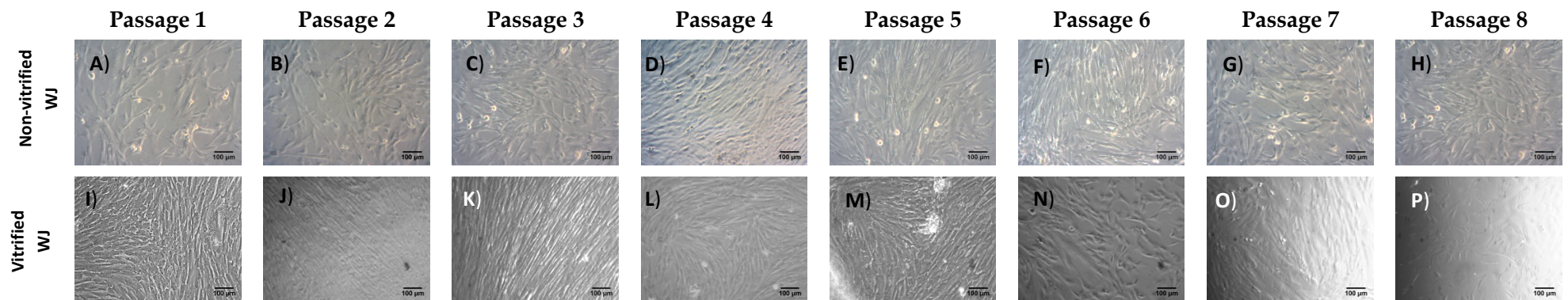


**Figure S1.** Days of first evidence of isolated MSCs from non-vitrified, vitrified and CPA-free WJ tissue samples. No MSCs were able to be isolated from CPA-free WJ tissue samples.



**Figure S2.** Initial passage of MSCs to cell culture flasks. A) Passage of MSCs derived from non-vitrified WJ tissue, where 80% was passaged to 75 cm<sup>2</sup> cell culture flask and the remaining 20% to 25 cm<sup>2</sup> cell culture flask. B) A) Passage of MSCs derived from vitrified WJ tissue, where 70% was passaged to 75 cm<sup>2</sup> cell culture flask and the remaining 30% to 25 cm<sup>2</sup> cell culture flask.



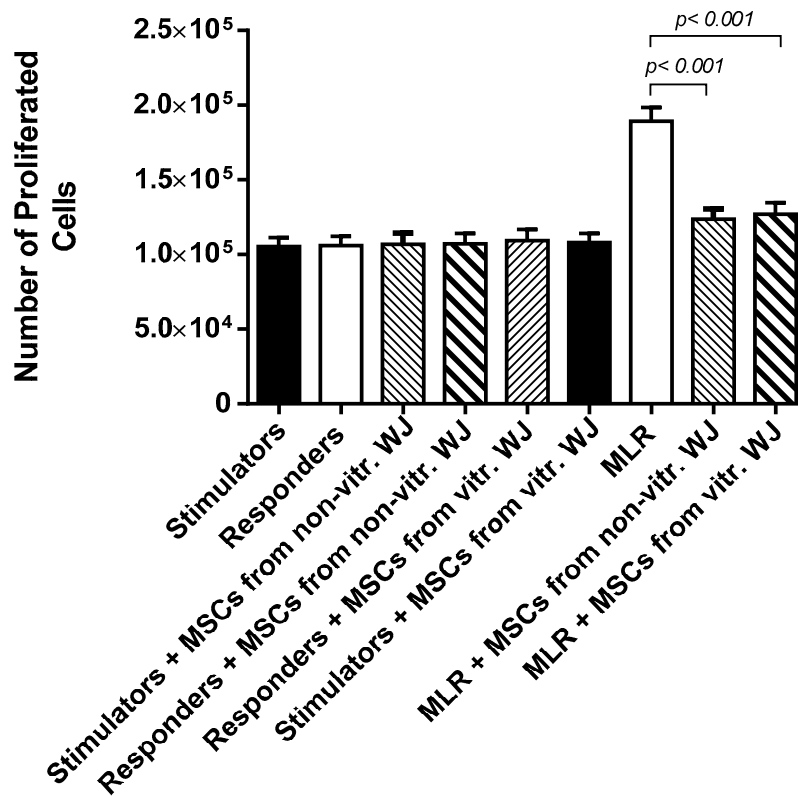
**Figure S3.** Passages of MSCs derived from non-vitrified and vitrified WJ tissue samples from 1 to 8. Passages of MSCs obtained from non-vitrified WJ tissue samples (A-H). Passages of MSCs obtained from vitrified WJ tissue samples (I-P). Original magnification 10x, scale bars 100  $\mu\text{m}$ .

**Table S1.** Flow cytometric analysis of HLA-G expression in WJ -MSCs.

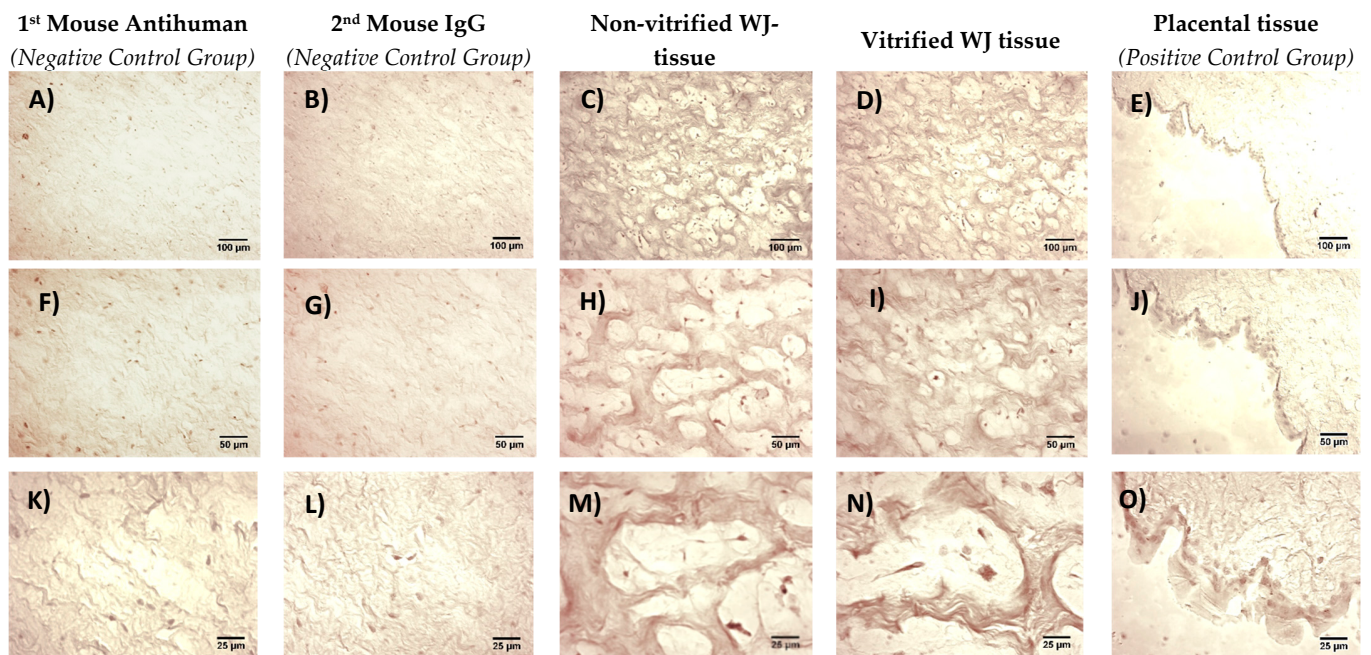
<b>Cluster of Differentiation</b>	<b>MSCs derived from non-vitrified WJ tissue</b> (% Expression)	<b>MSCs derived from vitrified WJ tissue</b> (% Expression)	<b><i>p</i> value</b>
HLA-DR	95.6 ± 1.2	95.3 ± 1.6	0.84349

**Table S2.** MLR results

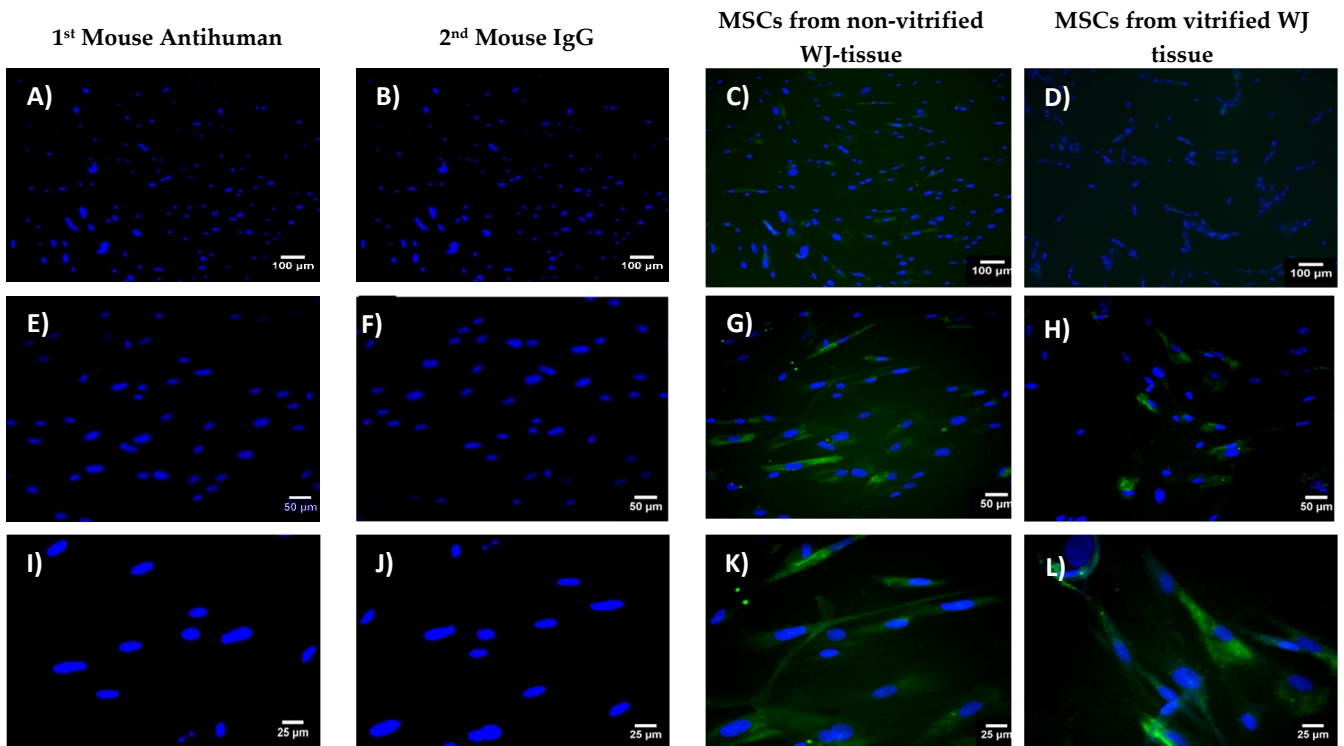
	<b>Stimulator Cells</b>	<b>Responder Cells</b>	<b>Stimulators with MSCs from non-vitrified WJ</b>	<b>Responders with MSCs from non-vitrified WJ</b>	<b>Stimulators with MSCs from vitrified WJ</b>	<b>Responders with MSCs from Vitrified WJ</b>	<b>MLR</b>	<b>MLR with MSCs from non-vitrified WJ</b>	<b>MLR with MSCs from vitrified WJ</b>
	98000	100000	101000	95000	101200	110000	176000	121000	117000
	110000	110000	120000	110000	120000	110000	190000	135000	142000
	102000	109000	102000	109000	102000	109000	182000	132000	125000
	120000	102000	121500	102000	110000	112500	201000	114000	129000
	101000	120000	101000	120000	115000	120000	179000	125000	131000
	106000	107000	106500	107000	106000	107000	195000	122000	117000
	103000	98000	104500	115000	99500	98000	197000	123000	124000
	102000	103000	102000	103000	120000	103000	182000	124000	127000
	106000	107000	104890	106500	106000	107000	189000	127000	122000
	105000	104000	104000	104000	112500	104000	201000	114000	135000
<b>Average</b>	105300	106000	106739	107150	109220	108050	189200	123700	126900
<b>Standard Deviation</b>	5815	5933	7215	6633	7133	5623	8693	6388	7395



**Figure S4.** Mixed Lymphocyte reaction. Statistical significant difference was observed between MLR and MLR coupled with either MSCs from non-vitrified WJ tissue ( $p < 0.001$ ) or MSCs from vitrified WJ tissue ( $p < 0.001$ ).



**Figure S5.** HLA-G expression in WJ tissue. 1<sup>st</sup> mouse antihuman - negative control group (A, F, K). 2<sup>nd</sup> Mouse IgG - Negative Control Group (B, G, L). Non-vitrified WJ-tissue (C, H, M). Vitrified WJ tissue (D, I, N). Placental tissue -Positive Control Group (E, J, O). Images A-E were acquired with original magnification 10x, scale bars 100  $\mu\text{m}$ . Images F-J, were acquired with original magnification 20x, scale bars 50  $\mu\text{m}$ . Images K-O, were acquired with original magnification 40x, scale bars 25  $\mu\text{m}$ .



**Figure S6.** Indirect immunofluorescence for HLA-G expression in WJ-MSCs. 1st Mouse Antihuman monoclonal antibody against HLA-G (A,E,I). 2nd Mouse IgG monoclonal antibody (B, F, J). MSCs from non-vitrified WJ-tissue (C, G, K) and from vitrified WJ-tissuw (D, H, L). Images A-D were acquired with original magnification 10x, scale bars 100  $\mu$ m. Images E- H, were acquired with original magnification 20x, scale bars 50  $\mu$ m. Images I-L, were acquired wit original magnification 40x, scale bars 25  $\mu$ m.