ANNEXES

Table 1: Average areas of PANC-1 spheroids grown with 4 mg/mL of collagen at day 1 and 9 after seeding and ratios between average spheroid areas at day 9 and day 1 after seeding for each one of the six microchips tested.

	Average area of spheroids at day 1 (μm^2)	Average area of spheroids at day 9 (μm^2)	Average area day 9 /Average area day 1
Chip 1	4031	26025	6.86
Chip 2	2484	16327	6.72
Chip 3	2701	19858	6.57
Chip 4	2960	17909	6.07
Chip 5	2583	14031	5.47
Chip 6	2081	12225	6.14
Mean	2807	17729	6.30

Table 2: Average areas of PANC-1 spheroids grown with 6 mg/mL of collagen at day 1 and 9 after seeding and ratios between average spheroid areas at day 9 and day 1 after seeding for each one of the six microchips tested.

	Average area of spheroids at day 1 (μm^2)	Average area of spheroids at day 9 (μm^2)	Average area day 9 /Average area day 1
Chip 1	1699	11102	6.16
Chip 2	1705	10571	6.77
Chip 3	1133	7000	6.39
Chip 4	1211	6850	5.15
Chip 5	1106	6462	5.89
Chip 6	1490	10986	7.31
Mean	1391	8828	6.28

Table 3: Mean areas of all counted spheroids grown with 4 mg/mL and 6 mg/mL of collagen at day 1 and 9 after seeding and ratios between the values obtained for each condition at day 1 and 9 after seeding.

	Average spheroid area with 4 mg/mL collagen (μm^2)	Average spheroid area with 6 mg/mL collagen (μm^2)	Average area with 4 mg/mL collagen/ Average area with 6 mg/mL collagen
Day 1 after seeding	2807	1391	2.02
Day 9 after seeding	17729	8828	2.01

Table 4 : Average areas of PANC-1 spheroids grown with 4 mg/mL of collagen at day 1 and 6 after seeding and their growth ratios for each of the 6 control microchips used to analyze the effects of IFP over PANC-1 spheroids' development.

	Average area of spheroids at day 1 (μm^2)	Average area of spheroids at day 6 (μm^2)	Growth ratio
Chip 1	658	1188	1.98
Chip 2	536	1681	3.07
Chip 3	783	2162	2.53
Chip 4	832	2603	3.38
Chip 5	815	1857	2.41
Chip 6	509	1652	3.24
Mean	689	1857	2.77

Table 5 : Average areas of PANC-1 spheroids grown with 4 mg/mL of collagen at day 1 and 6 after seeding and their growth ratios for each of the 5 microchips under a pressure of 7.3 mmHg used to analyze the effects of IFP over PANC-1 spheroids' development.

	Average area of spheroids at day 1 (μm^2)	Average area of spheroids at day 6 (μm^2)	Growth ratio
Chip 1	1229	2567	2.06
Chip 2	1007	1975	2.14
Chip 3	1250	3639	2.83
Chip 4	806	2858	3.69
Chip 5	707	1879	2.75
Mean	1000	2584	2.69

Table 6 : Average areas of PANC-1 spheroids grown with 4 mg/mL of collagen at day 1 and 6 after seeding and their growth ratios for each of the 4 microchips under a pressure of 29.3 mmHg used to analyze the effects of IFP over PANC-1 spheroids' development.

	Average area of spheroids at day 1 (μm^2)	Average area of spheroids at day 6 (μm^2)	Growth ratio
Chip 1	1046	3357	3.47
Chip 2	1228	3274	2.77
Chip 3	966	3097	3.15
Chip 4	715	2233	3.05
Mean	989	2990	3.11

Table 7: Distribution of PANC-1 spheroids of all microchips analyzed to study the effects of IFP over PANC-1 spheroids' development according to their growth ratio (%).

Growth ratio	Control spheroids	Spheroids under an IFP of 7.3 mmHg	Spheroids under an IFP of 29.3 mmHg
<2	31,9	26,7	14.9
2-3	33,6	43,3	45.9
3-4	20,8	17,1	21.6
>4	13,8	12,9	17.6

Table 8: Distribution of PANC-1 spheroids of all microchips analyzed to study the effects of IFP over PANC-1 spheroids' development according to their area at day 1 after seeding (%).

Area range	Control spheroids	Spheroids over which a pressure of 7.3 mmHg was later applied	Spheroids over which a pressure of 29.3 mmHg was later applied
<1000	82,6	71,7	73.2
1000-3000	15,4	22	21.1
3000-10000	2	6,3	5.7

Table 9: Distribution of PANC-1 spheroids of all microchips analyzed to study the effects of IFP over PANC-1 spheroids' development according to their area at day 6 after seeding (%).

Area range	Control spheroids	Spheroids under an IFP of 7.3 mmHg	Spheroids under an IFP of 29.3 mmHg
<1000	36,8	31,2	25.8
1000-3000	49,5	44,2	45.9
3000-10000	12,7	20	23.2
>10000	1	4,6	5.1

Table 10: Proliferation data obtained from the analysis of fluorescence microscopy images taken after the immunostaining of PANC-1 spheroids on day 6 after seeding was performed.

Fluid pressure applied	Average amount of Ki67+ spheroids (%)	Average number of Ki67+ cells per Ki67+ spheroid	Average proliferation ratio
Control	32,7	2,17	5.85E-05
7.3 mmHg	46,2	1,72	6.10E-05
29.3 mmHg	50,9	2,19	7.16E-05

Table 11: Mean phalloidin intensity on day 6 after seeding of all PANC-1 spheroids analyzed and all Ki67+ PANC-1 spheroids for each fluid pressure condition.

Fluid pressure applied	Mean phalloidin intensity of all spheroids	Mean phalloidin intensity of Ki67+ spheroids
Control	1743	2457
7.3 mmHg	2011	2352
29.3 mmHg	1720	1920

Table 12: Distribution of all PANC-1 spheroids analyzed after the immunostaining was performed according to their mean phalloidin intensity on day 6 after seeding (%).

Mean phalloidin intensity range	Control spheroids	Spheroids under an IFP of 7.3 mmHg	Spheroids under an IFP of 29.3 mmHg
<1000	33	0	4.9
1000-2000	31.7	55.5	64.5
2000-3000	25.6	38.8	27.4
>3000	9.7	5.7	3.2

Table 13: Distribution of all Ki67+ PANC-1 spheroids analyzed after the immunostaining was performed according to their mean phalloidin intensity on day 6 after seeding (%).

Mean phalloidin intensity range	Control spheroids	Spheroids under an IFP of 7.3 mmHg	Spheroids under an IFP of 29.3 mmHg
<1000	8,3	0	3.1
1000-2000	29.2	36	53.2
2000-3000	41.7	52	37.5
>3000	20.8	12	6.2

Table 14: Average areas of PDX 354-gfp spheroids grown with 4 mg/mL of collagen at day 1 and 6 after seeding and their growth ratios for each of the 6 microchips used to analyze the effects of IFP over PDX 354-gfp spheroids' development.

	Average area of spheroids at day 1 (μm^2)	Average area of spheroids at day 9 (μm^2)	Growth ratio
Chip 1 (control)	467	3093	6.51
Chip 2 (control)	499	4056	8.03
Chip 3 (IFP of 7.3 mmHg)	477	2738	5.64
Chip 4 (IFP of 7.3 mmHg)	395	2405	6.34
Chip 5 (IFP of 29.3 mmHg)	482	3335	7.25
Chip 6 (IFP of 29.3 mmHg)	443	3315	7.44

Table 15: Distribution of PDX 354-gfp spheroids of the six microchips analyzed to study the effects of IFP over PDX spheroids' development according to their area at day 1 after seeding (%).

Area range	Control spheroids	Spheroids under an IFP of 7.3 mmHg	Spheroids under an IFP of 29.3 mmHg
<400	33.3	44.5	42
400-600	46.2	43.6	42
600-800	17.2	9.9	10
>800	3.3	2	6

Table 16: Distribution of PDX 354-gfp spheroids of the six microchips analyzed to study the effects of IFP over PDX spheroids' development according to their area at day 6 after seeding (%).

Area range	Control spheroids	Spheroids under an IFP of 7.3 mmHg	Spheroids under an IFP of 29.3 mmHg
<1000	10.8	19.8	6
1000-3000	37.6	51.5	53
3000-6000	36.6	20.8	31
>6000	15	7.9	10