| Year | DOI          | First/last author            | Culture flask/dish                  | Expansion | Media volume | Media change | Glucose                   | Oxygen                   | Species   |
|------|--------------|------------------------------|-------------------------------------|-----------|--------------|--------------|---------------------------|--------------------------|-----------|
| 2005 | 10.1097/01.brs.0000184365.28481.e3 | D. Sakai/T. Hotta             | -                                   | P2        | -            | -            | Low glucose (LG): 1 g/L or 5.5 mM | -           | Rabbit   |
| 2006 | 10.1016/j.biomaterials.2005.06.038 | D. Sakai/T. Hotta             | T-25                                | 12 - 15days | -            | -            | -                         | -           | Rabbit   |
| 2008 | 10.1002/jor.20.584 | A. Hiyama/D. Sakai            | -                                   | 12 - 27 days | -            | Every 2 days | -                         | -           | Canine   |
| 2008 | 10.1097/BRS.0013e31817b8bf53 | K. Wuertz/J. Iatridis         | T-25                                | -         | -            | -            | LG                        |-            | Rat      |
| 2009 | 10.1186/ar261.1 | C. Le Maître/J. Hoyland       | T-75                                | Up to P2 (~7 days) | 10 mL | -            | -                         | -           | Human    |
| 2009 | 10.1016/j.bbrc.2008.12.145 | K. Wuertz/J. Iatridis         | T-25 or 24-well plate               | -         | -            | -            | High glucose (HG): 4.5 g/L or 25 mM | -           | Rat      |
| 2012 | 10.1007/s00958.6-011-1976-2 | M. Peroglio/D. Eglin          | 96-well plate                       | -         | 100 µL       | -            | Low glucose (LG): 1 g/L or 5.5 mM | -           | Bovine   |
| 2013 | 10.1186/scrt33.1 | B. Chon/J. Chen               | 24-well plate (with transwell insert)| P3 or P5 | -            | -            | High glucose (HG): 4.5 g/L or 25 mM | -           | Human    |
| 2013 | 10.1371/journal.pone.0075548 | J. Chen/L. Setton             | -                                   | -         | -            | -            | LG                        |-           | Mouse    |
| 2013 | 10.1155/2013/326828 | C. Bucher/B. Gantenbein       | -                                   | ~7 days   | -            | -            | High glucose (HG): 4.5 g/L or 25 mM | -           | Human    |
| 2014 | 10.1371/journal.pone.0099621 | R. Maidhof/N. Chahine          | -                                   | P2 - P4   | -            | -            | High glucose (HG): 4.5 g/L or 25 mM | -           | Bovine   |
| 2014 | 10.1016/j.actbio.2013.11.013 | A. Francisco/L. Setton        | -                                   | -         | -            | -            | High glucose (HG): 4.5 g/L or 25 mM | -           | Porcine  |
| 2015 | 10.1016/j.joca.2015.02.017 | K. Phillips/C. Le Maître       | T-75                                | Up to P2  | -            | Twice weekly | Low glucose (LG): 1 g/L or 5.5 mM | -           | Human    |
| 2015 | 10.1007/s12195-014-0373-4 | P. Hwang/L. Setton            | well-plate                          | -         | -            | -            | High glucose (HG): 4.5 g/L or 25 mM | -           | Human & porcine |
| 2015 | 10.1016/j.actbio.2014.10.030 | D. Kim/R. Mauck               | -                                   | P2        | 1 mL         | -            | High glucose (HG): 4.5 g/L or 25 mM | -           | Bovine   |
| 2015 | 10.1002/jor.22.821 | D. Gorth/L. Smith             | -                                   | P2        | -            | -            | High glucose (HG): 4.5 g/L or 25 mM | NX          | Bovine   |
| 2015 | 10.1016/j.joca.2014.09.012 | M. Farrell/R. Mauck           | -                                   | P2        | -            | -            | High glucose (HG): 4.5 g/L or 25 mM | NX and HX | Bovine   |
| Year   | DOI                                    | Authors                          | Duration | Medium  | Volume | Well Type       |
|--------|----------------------------------------|----------------------------------|----------|---------|---------|-----------------|
| 2015   | 10.22203/ecm-v029a15                    | D. Sakai/S. Kato                 | 6-well   | T-75    | P2      | 4 days          |
| 2015   | 10.1089/ten.TE.A.2013.0719             | M. Naqvi/C. Buckley              |          | T-175   | P2      | Every 3 days    |
| 2015   | 10.1111/joa.12.305                     | M. Naqvi/C. Buckley              |          | 12-well | P2      | Every 3 days    |
| 2015   | 10.1186/s1307-5-015-0900-2             | S. Chan/B. Gantenbein            |          | P4      |         |                |
| 2015   | 10.1097/brs.0.00000000000000000932     | B. Walter/J. Iatridis            |          |         |         |                 |
| 2015   | 10.1016/j.spine.e.2015.02.003          | D. Purmessur/J. Iatridis         | 6-well   | P19     |         |                 |
| 2015   | 10.1186/s1307-5-015-0569-6             | I. Arkesteijn/M. Tryfonidou      |          |         |         |                 |
| 2015   | 10.1038/srep37360                      | H. Gilbert/J. Hoyland            | 6-well   | Up to P4| 2 mL    | Every 2 - 3 days|
| 2015   | 10.1055/s-0034137573                   | D. Sakai/J. Mochida              | well-plate| 4 days  |         |                 |
| 2016   | 10.1097/brs.0.0000000000001314         | M. Naqvi/C. Buckley              | T-25     | 3 mL    | Every 3 days |                 |
| 2016   | 10.1186/s1328-7-016-0337-9             | A. Tekan/B. Gantenbein           |          |         |         |                 |
| 2016   | 10.1016/actbi.o.2017.03.010            | A. Thrope/C. Le Maitre           |          |         |         |                 |
| 2016   | 10.1016/actbi.o.2017.04.019            | D. Bridgen/L. Setton             | 96 half-well plate | P2    |         |                 |
| 2016   | 10.1016/j.tice.2.017.05.002            | S. Vedicherla/C. Buckley         | T-175    | 7 days (P1) |         |                 |
| 2017   | 10.1089/ten.TE.C.2016.0355            | R. May/B. Gantenbein             | T-150    | P2      | Thrice weekly |                 |
| 2017   | 10.22203/ecm-v033a18                    | Rosenzweig/L. Mochweit           | Petri-dish (35mm; 55mm; 100mm) | ~ 5 days | Every 3 days |                 |
| 2017   | 10.1038/s4159-8-017-17472-1            | E. Krock/L. Haglund              |          | P1 or P2|         |                 |
| 2017   | 10.1089/ten.TE.A.2016.0251            | F. Bach/M. Tryfonidou            |          | P2      |         |                 |

**Notes:**
- HG: Human
- LG: LG
- PX: PX
- NX: NX
- LGX: LG, PX
- HGX: HG, PX
- Bogine
- Human & bovine
- Human & canine
| Year | DOI or Journal Information | Authors | Cell Lines | Media Type | Characterization | Multiplicity | Media Type | Comments |
|------|-----------------------------|---------|------------|-------------|-----------------|--------------|------------|----------|
| 2017 | 10.1371/journal.pone.0187831 | F. Bach/M. Tryfonidou | Human, bovine & canine | - | P2 | - | - | NX |
| 2017 | 10.18632/onco.target.21483 | F. Bach/M. Tryfonidou | Human & canine | - | P2 | - | - | NX |
| 2018 | 10.1002/jsp2.1004 | N. Hodson/J. Hoyland | Human | Up to P4 | Every 2 - 3 days | HG | - | Human |
| 2018 | 10.1115/1.4038758 | B. Shah/N. Chahine | Bovine | P2 - P4 | - | HG | - |
| 2018 | 10.1186/s13287-018-0797-1 | R. Tang/L. Setton | Human (cell line) | 6-well plate | - | - | - | - |
| 2018 | doi.org/10.1371/journal.pone.0202640 | D. Sakai/M. Watanabe | Human | T-25 | Up to P3 | Twice weekly | - | HG |
| 2018 | 10.1088/1748-605X/aaab7f | M. Naqvi/C. Buckley | Porcine | - | - | - | - | PX |
| 2018 | 10.3390/ijms19041195 | R. May/B. Gantenbein | Human | - | P2 | Thrice weekly | LG | HX |
| 2018 | 10.22203/eCM.v036a15 | D. Rosenzweig/L. Haglund | Human | - | - | - | - | HG |
| 2018 | 10.1089/ten.TEA.2017.0334 | M. Cruz/J. Latridis | Bovine | P3 - P5 | - | HG | NX | |
| 2018 | 10.1016/j.jconrel.2018.08.019 | A. Tellegen/M. Tryfonidou | Canine | 24-well plate | - | - | - | HG |
| 2019 | 10.1002/jor.24154 | B. Shah/N. Chahine | Human | - | P2 - P4 | - | - | HG |
| 2019 | 10.1096/fj.201802725R | B. Fearing/L. Setton | Human | P3 | - | - | - | |
| 2019 | 10.22203/eCM.v037a09 | M. Naqvi/C. Buckley | Porcine | T-75 | P2 | - | LG | PX |
| 2019 | 10.3390/jcm8040433 | H. Cherif/L. Haglund | Human | 6-well plate | P0 - P1 | - | - | |
| 2020 | 10.1016/j.bioma.terials.2020.10057 | M. Barcellona/L. Setton | Human | - | P4 | - | - | |
### Alginate bead culture

| Year | DOI | First/last author | Alginate conc. | Dimensions | Cell density | Duration | Culture vessel/media vol. | Media change | Glucose | Oxygen | Species     |
|------|-----|-------------------|----------------|------------|-------------|----------|---------------------------|--------------|---------|--------|-------------|
| 2005 | 10.1186/ar1732 | C. Le Maitre/J. Hoyland | 1.2% | - | 1x10^6 cells/mL | - | 2 mL per well | Every 2 days | - | NX | Human |
| 2011 | 10.1186/ar3344 | D. Purmessur/J. Iatridis | 1.2% | - | 2x10^6 cells/mL | 4 days | 12-well plate (10 beads/well); 2 mL | - | LG | PX | Porcine |
| 2013 | 10.1155/2013/326828 | C. Bucher/B. Gantenbein | 1.2% | Vol. = 30 µl | 2x10^6 cells/mL | - | - | HG | - | - | Human |
| 2013 | 10.1016/j.spine.e.2013.05.029 | M. Peroglio/S. Grad | 1.2% | Vol. = 30 µl | 8x10^6 cells/mL | 1 week | 12-well plate (4 beads per well) | - | - | PX | Human |
| 2013 | 10.22203/ecm.v025a08 | R. Gawri/F. Mwale | 1.2% | 20G needle | - | - | 48-well plate (5 beads per well) | - | HG | NX | Human & bovine |
| 2013 | 10.1097/BSO.0b013e318266e0ca4 | R. Abbott/J. Iatridis | 1.2% | - | 2x10^6 cells/mL | 3 weeks | 12-well plate (10 beads/well); 2 mL | Twice weekly | LG | PX | Human |
| 2014 | 10.1186/1471-2474-15-422 | B. Gantenbein/S. Chan | 1.2% | Vol. = 30 µl | 4x10^6 cells/mL | 1 week | - | HG | NX | Porcine & bovine |
| 2015 | 10.1016/j.joca.2015.02.017 | K. Philips/C. Le Maitre | 1.2% | 19G needle | 2x10^6 cells/mL | 2 weeks | - | Twice weekly | - | NX | Human |
| 2015 | 10.1186/s13075-015-0900-2 | S. Chan/B. Gantenbein | 1.2% | Vol. = 30 µl | - | - | 12-well plate | Thrice weekly | - | - | Human |
| 2015 | 10.1097/BSR.000000000000932 | B. Walter/J. Iatridis | 1.2% | - | 2x10^6 cells/mL | 2 weeks | 12-well plate; 2 mL | - | LG | PX | Human |
Cylindrical hydrogel constructs

| Year | DOI | First/last author | Hydrogel | Dimensions | Cell density | Duration | Culture vessel/media vol. | Media change | Glucose | Oxygen | Species |
|------|-----|-------------------|----------|------------|--------------|----------|--------------------------|--------------|---------|---------|---------|
| 2008 | 10.1016/j.biomaterials.2007.09.018 | S. Richardson/J. Hoyland | Chitosan glycerophosphate | 250 µL (in transwell insert) | 4x10^6 cells/mL | 4 weeks | 24-well plate | Every 3 days | - | NX | Human |
| 2010 | 10.1002/art.27710 | B. Minogue/J. Hoyland | Type I collagen | 200 µL | 4x10^6 cells/mL | - | 24-well plate | Every 2 - 3 days | HG | - | Human |
| 2010 | 10.1186/scrt18 | C. Korecki/J. Iatridis | Alginate | D = 5.82 mm and h = 3.27 mm (~ 100 µl) | 2x10^6 cells/mL | 4 days | 6-well plate (5 gels per well), 5 mL | - | HG | PX | Pocine |
| 2010 | 10.1186/scrt331 | B. Chon/J. Chen | Matrigel | 60 µL (in transwell insert) | - | 3 weeks | 24-well plate | - | - | HX | Human |
| 2015 | 10.1016/j.actbio.2014.10.030 | D. Kim/R. Mauck | Methacrylated hyaluronic acid (HA) | D = 4 mm and height (h) = 1.5 mm | 20x10^6 or 60x10^6 cells/mL | 8 weeks | 1 mL each | Thrice weekly | HG | - | Bovine |
| 2015 | 10.1002/jor.22821 | D. Gorth/L. Smith | 2% agarose | D = 4 mm and h = 2.25 mm | 20x10^6 cell/mL | 6 weeks | 1 mL each | Every 3 days | HG | NX and HX | Bovine |
| Year | DOI          | First/last author | Culture vessel | Cell density | Duration | Media volume | Media change | Glucose | Oxygen | Species            |
|------|--------------|-------------------|----------------|--------------|-----------|--------------|--------------|---------|-------|-------------------|
| 2015 | 10.1016/j.joca.2014.09.012 | M. Farrell/R. Mauck | 2% agarose | D = 4 mm and h = 2.25 mm or 0.75 mm | 20x10^6 cell/mL | 4 weeks | - | LG and HG | NX and HX | Bovine |
| 2015 | 10.1089/ten.TE A.2013.0719 | M. Naqvi/C. Buckley | 1.5% alginate or chitosan | D = 5 mm and h = 3 mm | 4x10^6 or 8x10^6 cells/mL | 3 weeks | 12-well plate; 2 mL | Twice weekly | - | PX | Porcine |
| 2015 | 10.1111/j.ca.2013.0719 | M. Naqvi/C. Buckley | 1.5% alginate | D = 5 mm and h = 3 mm | - | - | 24-well plate; 2 mL | - | 1, 5 and 25 mM | NX and PX | Porcine |
| 2017 | 10.1016/j.actbio.2017.07.025 | S. Gullbrand/L. Smith | 7.5% oxidized dextran | D = 4 mm and h = 2.26 mm | 20x10^6 cell/mL | 2 weeks | - | - | HG | NX | Goat |
| 2018 | 10.22203/ecM. v036a15 | D. Rosenzweig/L. Haglund | 2% agarose | 250 µL | 2x10^6 cells/mL | - | - | - | - | - | Human |
| 2018 | 10.089/ten.TEC .2017.0226 | A. Krouwels/L. Creemers | Alginate, agarose, gelma, fibrin, HA-PEG & Col2 | ~ 50 µL | 2x10^6 cells/mL | - | - | - | - | - | Human |
| 2019 | 10.22203/ecM. v037a09 | M. Naqvi/C. Buckley | 1.5% alginate | OuterD = 9 mm, innerD = 5 mm and h = 3 mm | 4x10^6 cells/mL | - | - | - | LG | PX | Porcine |
| 2021 | 10.1089/ten.te a.2020.0123 | H. Zlotnick/R. Mauck | Agarose | D = 4 mm and h = 2.25 mm | ~ 565,000 cells (total) | 8 weeks | 1, 3 or 5 mL | Twice weekly | HG | - | Bovine |

**Cell pellets and microaggregates**

| Year | DOI          | First/last author | Culture vessel | Cell density | Duration | Media volume | Media change | Glucose | Oxygen | Species            |
|------|--------------|-------------------|----------------|--------------|-----------|--------------|--------------|---------|-------|-------------------|
| 2010 | 10.1186/scrt18 | C. Korecki/J. Iatridis | 96-well plate | 250,000 cells/pellet | - | - | Twice weekly | HG | PX | Pocine |
| 2015 | 0.22203/ecm.v030a10 | F. Bach/M. Tryfonidou | 96-well plate | 35,000 cells/microaggregate | - | - | - | HG | NX and PX | Human, canine, porcine |
| 2016 | 10.1186/s13075-016-0960-y | F. Bach/M. Tryfonidou | 96-well plate | 35,000 cells/microaggregate | 2 weeks | 50 µL | - | HG | NX | Human & canine |
| 2017 | 10.22203/ecM.v033a18 | D. Rosenzweig/L. Haglund | - | 1 x10^6 cells/pellet | 3 weeks | - | Every 3 days | HG | - | Bovine |
| 2017 | 10.1089/ten.TE A.2016.0251 | F. Bach/M. Tryfonidou | 96-well plate | 35,000 cells/microaggregate | 4 weeks | 50 µL | Twice weekly | HG | NX | Human & canine |
| Year   | DOI                                      | Authors                                      | Format          | Viable Cells | Volume | Frequency | Media Type | Cells/Pellet | Date Range | Species                  |
|--------|------------------------------------------|----------------------------------------------|-----------------|--------------|--------|-----------|------------|--------------|------------|--------------------------|
| 2017   | 10.1371/journal.pone.0187831           | F. Bach/M. Tryfonidou                        | 96-well plate   | 35,000 cells/microaggregate | 4 weeks | 50 µL     | Twice weekly | HG           | NX         | Human, bovine & canine   |
| 2017   | 10.18632/oncotarget.21483              | F. Bach/M. Tryfonidou                        | 96-well plate   | 35,000 cells/microaggregate | 1 or 3 weeks | 50 µL     | Twice weekly | HG           | NX         | Human & canine            |
| 2019   | 10.1177/1947603519841675               | S. Peck/L. Smith                            | -               | 250,000 cells/pellet        | 2 weeks   | -         | -          | LG           | HX         | Bovine                   |
| 2019   | 10.3390/jcm8040433                      | H. Cherif/L. Haglund                        | -               | 300,000 cells/pellet        | -         | 1 mL      | Every 3 days | 2.25 g/L     | NX         | Human                    |