References

Abaci, H.E., Gledhill, K., Guo, Z., Christiano, A.M., Shuler, M.L., 2015. Lab Chip 15 (3), 882–888. https://doi.org/10.1039/C4LC00999A.

Abaci, H.E., Guo, Z., Coffman, A., Gillette, B., Lee, W.-h., Sia, S.K., Christiano, A.M., 2016. Adv. Healthc. Mater. 5 (14), 1800–1807. https://doi.org/10.1002/adhm.201500936.

Abudupataer, M., Zhu, S.C., Yan, S.Q., Xu, K.H., Zhang, J.J., Luo, S.M., Ma, W.R., Alam, M.F., Tang, Y.Y., Huang, H., Chen, N., Wang, L., Yan, G.Q., Li, J., Lai, H., Wang, C.S., Zhu, K., Zhang, W.J., 2021. Elife 10, 26. https://doi.org/10.7554/eLife.69310.sa2.

Agarwal, A., Goss, J.A., Cho, A., McCain, M.L., Parker, K.K., 2013. Lab Chip 13 (18), 3599–3608. https://doi.org/10.1039/c3lc50350j.

Ai, X.N., Wu, Y., Lu, W.B., Zhang, X.R., Zhao, L., Tu, P.F., Wang, K.W., Jiang, Y., 2020a. Adv. Sci. 7 (11) https://doi.org/10.1002/advs.202000111.

Ai, X.N., Zhao, L., Lu, Y.Y., Hou, Y., Lv, T., Jiang, Y., Tu, P.F., Guo, X.Y., 2020b. Anal. Chem. 92 (17), 11696–11704. https://doi.org/10.1021/acs.analchem.0c01590.

Ainslie, G.R., Davis, M., Ewart, L., Lieberman, L.A., Rowlands, D.J., Thorley, A.J., Yoder, G., Ryan, A.M., 2019. Lab Chip 19 (19), 3152–3161. https://doi.org/10.1039/c9lc00492k.

Alberti, M., Dancik, Y., Sriram, G., Wu, B., Teo, Y.L., Feng, Z., Bigliardi-Qi, M., Wu, R.G., Wang, Z.P., Bigliardi, P.L., 2017. Lab Chip 17 (9), 1625–1634. https://doi.org/10.1039/C6LC01574C.

Amani Wan Salim, W.W., H Park, J., Ul Haque, A., Marshall Porterfield, D., 2013. Recent Pat. Space Technol. 3 (1), 24–39.

Appl. In Vitro Toxicol. 1 (2), 2015, 165–171. https://doi.org/10.1089/aivt.2015.0002.

Arik, Y.B., van der Helm, M.W., Odijk, M., Segerink, L.I., Passier, R., van den Berg, A., van der Meer, A.D., 2018. Biomicrofluidics 12 (4). https://doi.org/10.1063/1.5023041.

Arjmand, B., Hamidpour, S.K., Rabbani, Z., Tayanloo-Beik, A., Rahim, F., Aghayan, H.R., Larijani, B., 2022. Front. Neurol. 12, 17. https://doi.org/10.3389/fneur.2021.788462.

Arndt, S., Seebach, J., Psathaki, K., Galla, H.J., Wegener, J., 2004. Biosens. Bioelectron. 19 (6), 583–594. https://doi.org/10.1016/s0956-5663(03)00269-0.

Asbill, C., Kim, N., El-Kattan, A., Creek, K., Wertz, P., Michniak, B., 2000. Pharm. Res. (N. Y.) 17 (9), 1092–1097. https://doi.org/10.1023/A:1026405712870.

Ashammakhi, N., Wesseling-Perry, K., Hasan, A., Elkhammas, E., Zhang, Y.S., 2018. Kidney Int. 94 (6), 1073–1086. https://doi.org/10.1016/j.kint.2018.06.034.

Ashammakhi, N., Darabi, M.A., Celebi-Saltik, B., Tutar, R., Hartel, M.C., Lee, J., Hussein, S.M., Goudie, M.J., Cornelius, M.B., Dokmeci, M.R., Khademhosseini, A., 2020a. Small Methods 4 (1). https://doi.org/10.1002/smtd.201900589.

Ashammakhi, N., Nasiri, R., Barros, N.R., Tebon, P., Thakor, J., Goudie, M., Shamloo, A., Martin, M.G., Khademhosseini, A., 2020b. Biomaterials 255, 120196. https://doi.org/10.1016/j.biomaterials.2020.120196.

Atac, B., Wagner, I., Horland, R., Lauster, R., Marx, U., Tonevitsky, A.G., Azar, R.P., Lindner, G., 2013. Lab Chip 13 (18), 3555–3561. https://doi.org/10.1039/c3lc50227a.

Atkuri, K.R., Herzenberg, L.A., Niemi, A.-K., Cowan, T., Herzenberg, L.A., 2007. Proc. Natl. Acad. Sci. USA 104 (11), 4547–4552. https://doi.org/10.1073/pnas.0611732104.

Au - Risueño, I., Au - Valencia, L., Au - Holgado, M., Au - Jorcano, J.L., Au - Velasco, D., 2021. JoVE (171), e62353. https://doi.org/10.3791/62353.

Ayuso, J.M., Truttschel, R., Gong, M.M., Humayun, M., Virumbrales-Munoz, M., Vitek, R., Felder, M., Gillies, S.D., Sondel, P., Wisinski, K.B., Patankar, M., Beebe, D. J., Skala, M.C., 2018. OncoImmunology 8 (3). https://doi.org/10.1080/2162402X.2018.1553477, 1553477-1553477.

Bagnaninchi, P.O., Drummond, N., 2011. Proc. Natl. Acad. Sci. U.S.A. 108 (16), 6462–6467. https://doi.org/10.1073/pnas.1018260108.

Bale, S.S., Vernetti, L., Senutovitch, N., Jindal, R., Hegde, M., Gough, A., McCarty, W.J., Bakan, A., Bhushan, A., Shun, T.Y., Golberg, I., DeBiasio, R., Usta, O.B., Taylor, D.L., Yarmush, M.L., 2014. Exp. Biol. Med. 239 (9), 1180–1191. https://doi.org/10.1177/1535370214531872.

Bang, S., Lee, S.-R., Ko, J., Son, K., Tahk, D., Ahn, J., Im, C., Jeon, N.L., 2017. Sci. Rep. 7 (1), 8083. https://doi.org/10.1038/s41598-017-07416-0.

Barkal, L.J., Procknow, C.L., Álvarez-García, Y.R., Niu, M., Jiménez-Torres, J.A., Brockman-Schneider, R.A., Gern, J.E., Denlinger, L.C., Theberge, A.B., Keller, N.P., Berthier, E., Beebe, D.J., 2017. Nat. Commun. 8 (1), 1770. https://doi.org/10.1038/s41467-017-01985-4.

Barros, A.S., Costa, A., Sarmento, B., 2021. Adv. Drug Deliv. Rev. 170, 386–395. https://doi.org/10.1016/j.addr.2020.09.008.

Baselt, D.R., Lee, G.U., Natesan, M., Metzger, S.W., Sheehan, P.E., Colton, R.J., 1998. Biosens. Bioelectron. 13 (7–8), 731–739.

Bavli, D., Prill, S., Ezra, E., Levy, G., Cohen, M., Vinken, M., Vanfleteren, J., Jaeger, M., Nahmias, Y., 2016. Proc. Natl. Acad. Sci. U.S.A. 113 (16), E2231–E2240. https://doi.org/10.1073/pnas.1522556113.

Beaurivage, C., Naumovska, E., Chang, Y.X., Elstak, E.D., Nicolas, A., Wouters, H., van Moolenbroek, G., Lanz, H.L., Trietsch, S.J., Joore, J., Vulto, P., Janssen, R.A.J., Erdmann, K.S., Stallen, J., Kurek, D., 2019. Int. J. Mol. Sci. 20 (22), 5661.

Becker, H., Gärtner, C., 2008. Anal. Bioanal. Chem. 390 (1), 89–111. https://doi.org/10.1007/s00216-007-1692-2.

Bein, A., Shin, W., Jalili-Firoozinezhad, S., Park, M.H., Sontheimer-Phelps, A., Tovaglieri, A., Chalkiadaki, A., Kim, H.J., Ingber, D.E., 2018. Cell. Mol. Gastroenterol. Hepatol. 5 (4), 659–668. https://doi.org/10.1016/j.jcmgh.2017.12.010.

Benam, K.H., Dauth, S., Hassell, B., Herland, A., Jain, A., Jang, K.J., Karalis, K., Kim, H. J., MacQueen, L., Mahmoodian, R., Musah, S., Torisawa, Y.S., van der Meer, A.D., Villenave, R., Yadid, M., Parker, K.K., Ingber, D.E., 2015. Engineered in vitro disease models. Vol 10. In: Abbas, A.K., Galli, S.J., Howley, P.M. (Eds.), Annual Review of Pathology: Mechanisms of Disease, vol. 10, pp. 195–262. Annual Reviews: Palo Alto.

Benam, K.H., Villenave, R., Lucchesi, C., Varone, A., Hubeau, C., Lee, H.H., Alves, S.E., Salmon, M., Ferrante, T.C., Weaver, J.C., Bahinski, A., Hamilton, G.A., Ingber, D.E., 2016. Nat. Methods 13 (2), 151. https://doi.org/10.1038/nmeth.3697.

Bennet, T.J., Randhawa, A., Hua, J., Cheung, K.C., 2021. Cells 10 (7), 51. https://doi.org/10.3390/cells10071602.

Bhatia, S.N., Ingber, D.E., 2014. Nat. Biotechnol. 32 (8), 760–772. https://doi.org/10.1038/nbt.2989.

Bhattacharjee, N., Parra-Cabrera, C., Kim, Y.T., Kuo, A.P., Folch, A., 2018. Adv. Mater. 30 (22), 1800001 https://doi.org/10.1002/adma.201800001.

Biglari, S., Le, T.Y.L., Tan, R.P., Wise, S.G., Zambon, A., Codolo, G., De Bernard, M., Warkiani, M., Schindeler, A., Naficy, S., Valtchev, P., Khademhosseini, A., Dehghani, F., 2019. Adv. Healthc. Mater. 8 (1), 12. https://doi.org/10.1002/adhm.201801307.

Bircsak, K.M., DeBiasio, R., Miedel, M., Alsebahi, A., Reddinger, R., Saleh, A., Shun, T., Vernetti, L.A., Gough, A., 2021. Toxicology 450, 152667. https://doi.org/10.1016/j.tox.2020.152667.

Borghardt, J.M., Kloft, C., Sharma, A., 2018. Can. Respir. J. J. Can. Thorac. Soc. 2018, 2732017 https://doi.org/10.1155/2018/2732017.

Bovard, D., Sandoz, A., Luettich, K., Frentzel, S., Iskandar, A., Marescotti, D., Trivedi, K., Guedj, E., Dutertre, Q., Peitsch, M.C., Hoeng, J., 2018. Lab Chip 18 (24), 3814–3829. https://doi.org/10.1039/c8lc01029c.

Boyce, M.W., Kenney, R.M., Truong, A.S., Lockett, M.R., 2016. Anal. Bioanal. Chem. 408 (11), 2985–2992. https://doi.org/10.1007/s00216-015-9189-x.

Brancato, V., Oliveira, J.M., Correlo, V.M., Reis, R.L., Kundu, S.C., 2020. Biomaterials 232. https://doi.org/10.1016/j.biomaterials.2019.119744.

Brown, J.A., Codreanu, S.G., Shi, M., Sherrod, S.D., Markov, D.A., Neely, M.D., Britt, C. M., Hoilett, O.S., Reiserer, R.S., Samson, P.C., McCawley, L.J., Webb, D.J., Bowman, A.B., McLean, J.A., Wikswo, J.P., 2016. J. Neuroinflammation 13. https://doi.org/10.1186/s12974-016-0760-y.

Buja, I., Sabella, E., Monteduro, A.G., Rizzato, S., Bellis, L.D., Elicio, V., Formica, L., Luvisi, A., Maruccio, G., 2022. Biosensors 12 (3), 147.

Cabodi, M., Choi, N.W., Gleghorn, J.P., Lee, C.S.D., Bonassar, L.J., Stroock, A.D., 2005. J. Am. Chem. Soc. 127 (40), 13788–13789. https://doi.org/10.1021/ja054820t.

Campillo, N., Oliveira, V.R., da Palma, R.K., 2021. Chemosensors 9 (9), 17. https://doi.org/10.3390/chemosensors9090248.

Caplin, J.D., Granados, N.G., James, M.R., Montazami, R., Hashemi, N., 2015a. Adv. Healthc. Mater. 4 (10), 1426–1450. https://doi.org/10.1002/adhm.201500040.

Caplin, J.D., Granados, N.G., James, M.R., Montazami, R., Hashemi, N., 2015b. Adv Healthc Mater 4 (10), 1426–1450. https://doi.org/10.1002/adhm.201500040.

Carter, S.-S.D., Atif, A.-R., Kadekar, S., Lanekoff, I., Engqvist, H., Varghese, O.P., Tenje, M., Mestres, G., 2020. Organs-on-a-Chip 2, 100004. https://doi.org/10.1016/j.ooc.2020.100004.

Chen, Y., Li, P., Huang, P.-H., Xie, Y., Mai, J.D., Wang, L., Nam-Trung, N., Huang, T.J., 2014. Lab Chip 14 (4), 626–645. https://doi.org/10.1039/c3lc90136j.

Chen, M.B., Lamar, J.M., Li, R., Hynes, R.O., Kamm, R.D., 2016a. Cancer Res. 76 (9), 2513–2524. https://doi.org/10.1158/0008-5472.can-15-1325.

Chen, X., Shen, J., Zhou, M., 2016b. J. Micromech. Microeng. 26 (10), 107001 https://doi.org/10.1088/0960-1317/26/10/107001.

Chen, M.B., Whisler, J.A., Fröse, J., Yu, C., Shin, Y., Kamm, R.D., 2017. Nat. Protoc. 12 (5), 865–880. https://doi.org/10.1038/nprot.2017.018.

Chen, Z.K., Kheiri, S., Gevorkian, A., Young, E.W.K., Andre, V., Deisenroth, T., Kumacheva, E., 2021. Lab Chip 21 (20), 3952–3962. https://doi.org/10.1039/d1lc00619c.

Cheng, S.-B., Xie, M., Xu, J.-Q., Wang, J., Lv, S.-W., Guo, S., Shu, Y., Wang, M., Dong, W.-G., Huang, W.-H., 2016. Anal. Chem. 88 (13), 6773–6780. https://doi.org/10.1021/acs.analchem.6b01130.

Chiriacò, M.S., Primiceri, E., Monteduro, A.G., Bove, A., Leporatti, S., Capello, M., Ferri-Borgogno, S., Rinaldi, R., Novelli, F., Maruccio, G., 2013. Lab Chip 13 (4), 730–734. https://doi.org/10.1039/c2lc41127j.

Chiriacò, M.S., de Feo, F., Primiceri, E., Monteduro, A.G., de Benedetto, G.E., Pennetta, A., Rinaldi, R., Maruccio, G., 2015. Talanta 142, 57–63. https://doi.org/10.1016/j.talanta.2015.04.040.

Chiriacò, M.S., Primiceri, E., De Feo, F., Montanaro, A., Monteduro, A.G., Tinelli, A., Megha, M., Carati, D., Maruccio, G., 2016. Biosens. Bioelectron. 79, 9–14. https://doi.org/10.1016/j.bios.2015.11.100.

Chiriacò, M.S., Rizzato, S., Primiceri, E., Spagnolo, S., Monteduro, A.G., Ferrara, F., Maruccio, G., 2018. Microelectron. Eng. 202, 31–36. https://doi.org/10.1016/j.mee.2018.10.008.

Choi, N.W., Cabodi, M., Held, B., Gleghorn, J.P., Bonassar, L.J., Stroock, A.D., 2007. Nat. Mater. 6 (11), 908–915. https://doi.org/10.1038/nmat2022.

Christoffersson, J., Aronsson, C., Jury, M., Selegard, R., Aili, D., Mandenius, C.F., 2019. Biofabrication 11 (1), 13. https://doi.org/10.1088/1758-5090/aaf657.

Chung, K., Zhan, M., Srinivasan, J., Sternberg, P.W., Gong, E., Schroeder, F.C., Lu, H., 2011. Lab Chip 11 (21), 3689–3697. https://doi.org/10.1039/c1lc20400a.

Chung, M., Ahn, J., Son, K., Kim, S., Jeon, N.L., 2017. Adv. Healthc. Mater. 6 (15) https://doi.org/10.1002/adhm.201700196.

Cidem, A., Bradbury, P., Traini, D., Ong, H.X., 2020. Front. Bioeng. Biotechnol. 8 https://doi.org/10.3389/fbioe.2020.581995.

Cohen, A., Ioannidis, K., Ehrlich, A., Regenbaum, S., Cohen, M., Ayyash, M., Tikva, S.S., Nahmias, Y., 2021. Sci. Transl. Med. (582), 13. https://doi.org/10.1126/scitranslmed.abd6299.

Colombelli, A., Primiceri, E., Rizzato, S., Monteduro, A.G., Maruccio, G., Rella, R., Manera, M.G., 2021. Chemosensors 9 (1), 10.

Contreras-Naranjo, J.C., Wu, H.J., Ugaz, V.M., 2017. Lab Chip 17 (21), 3558–3577. https://doi.org/10.1039/c7lc00592j.
Cosson, S., Aeberli, L.G., Brandenberg, N., Lutolf, M.P., 2015. Lab Chip 15 (1), 72–76. https://doi.org/10.1039/C4LC00848K.
Cui, M.Y., Wiraja, C., Zheng, M.J., Singh, G., Yong, K.T., Xu, C.J., 2022. Adv. Ther. 5 (1), 13. https://doi.org/10.1002/adtp.202100138.
De Gregorio, V., Telesco, M., Corrado, B., Rosiello, V., Urciuolo, F., Netti, P.A., Imparato, G., 2020. Front. Bioeng. Biotechnol. 8, 19. https://doi.org/10.3389/fbioe.2020.00163.
de Haan, P., Santbergen, M.J.C., van der Zande, M., Bouwmeester, H., Nielen, M.W.F., Verpoorte, E., 2021. Sci. Rep. 11 (1), 4920. https://doi.org/10.1038/s41598-021-84187-9.
Debreczeni, M.L., Szekacs, I., Kovacs, B., Saftics, A., Kurunczi, S., Gál, P., Dobó, J., Cervenak, L., Horvath, R., 2020. Sci. Rep. 10 (1), 3303. https://doi.org/10.1038/s41598-020-60158-4.
Decsi, B., Krammer, R., Hegedus, K., Ender, F., Gyarmati, B., Szilagyi, A., Totos, R., Katona, G., Paizs, C., Balogh, G.T., Poppe, L., Balogh-Weiser, D., 2019. Micromachines 10 (10), 13. https://doi.org/10.3390/mi10100668.
Del Piccolo, N., Shirure, V.S., Bi, Y., Goedegebuure, S.P., Gholami, S., Hughes, C.C.W., Fields, R.C., George, S.C., 2021. Adv. Drug Deliv. Rev. 175, 113798 https://doi.org/10.1016/j.addr.2021.05.008.
Dellaquila, A., Le Bao, C., Letourneur, D., Simon-Yarza, T., 2021. Adv. Sci. 8 (19), 2100798 https://doi.org/10.1002/advs.202100798.
Deng, J., Wei, W.B., Chen, Z.Z., Lin, B.C., Zhao, W.J., Luo, Y., Zhang, X.L., 2019. Micromachines 10 (10), 26. https://doi.org/10.3390/mi10100676.
Dhiman, N., Kingshott, P., Sumer, H., Sharma, C.S., Rath, S.N., 2019. Biosens. Bioelectron. 137, 236–254. https://doi.org/10.1016/j.bios.2019.02.070.
Di Natale, C., Macagnano, A., Martinelli, E., Paolesse, R., D'Arcangelo, G., Roscioni, C., Finazzi-Agro, A., D'Amico, A., 2003. Biosens. Bioelectron. 18 (10), 1209–1218. https://doi.org/10.1016/s0956-5663(03)00086-1.
Ding, C., Chen, X., Kang, Q., Yan, X., 2020. Front. Bioeng. Biotechnol. 8 https://doi.org/10.3389/fbioe.2020.00823, 823-823.
Douville, N.J., Tung, Y.C., Li, R., Wang, J.D., El-Sayed, M.E.H., Takayama, S., 2010. Anal. Chem. 82 (6), 2505–2511. https://doi.org/10.1021/ac9029345.
Du, Y., Li, N., Yang, H., Luo, C., Gong, Y., Tong, C., Gao, Y., Lü, S., Long, M., 2017. Lab Chip 17 (5), 782–794. https://doi.org/10.1039/C6LC01374K.
Du, Z., Mi, S., Yi, X., Xu, Y., Sun, W., 2018. Biofabrication 10 (3), 034102. https://doi.org/10.1088/1758-5090/aac70c.
Dummer, J., Storer, M., Swanney, M., McEwan, M., Scott-Thomas, A., Bhandari, S., Chambers, S., Dweik, R., Epton, M., 2011. TrAC, Trends Anal. Chem. 30 (7), 960–967. https://doi.org/10.1016/j.trac.2011.03.011.
Duval, C., Chagnoleau, C., Pouradier, F., Sextius, P., Condom, E., Bernerd, F., 2012. Tissue Eng. C Methods. 18 (12), 947–957. https://doi.org/10.1089/ten.tec.2011.0676.
Einoch Amor, R., Nakhleh, M.K., Barash, O., Haick, H., 2019. Eur. Respir. Rev. 28 (152), 190002 https://doi.org/10.1183/16000617.0002-2019.
Elomaa, L., Yang, Y.P., 2017. Tissue Eng. B Rev. 23 (5), 436–450. https://doi.org/10.1089/ten.TEB.2016.0348.
Esch, M.B., Mahler, G.J., Stokor, T., Shuler, M.L., 2014. Lab Chip 14 (16), 3081–3092. https://doi.org/10.1039/c4lc00371c.
Fabre, K., Berridge, B., Proctor, W.R., Ralston, S., Will, Y., Baran, S.W., Yoder, G., Van Vleet, T.R., 2020. Lab Chip 20 (6), 1049–1057. https://doi.org/10.1039/c9lc01168d.
Fan, Y.T., Nguyen, D.T., Akay, Y., Xu, F., Akay, M., 2016. Sci. Rep. 6 https://doi.org/10.1038/srep25062.
Farooqi, H.M.U., Kang, B., Khalid, M.A.U., Salih, A.R.C., Hyun, K., Park, S.H., Huh, D., Choi, K.H., 2021. Nano Converg. 8 (1) https://doi.org/10.1186/s40580-021-00253-y, 3-3.
Fedorovich, N.E., Schuurman, W., Wijnberg, H.M., Prins, H.-J., Van Weeren, P.R., Malda, J., Alblas, J., Dhert, W.J., 2012. Tissue Eng. C Methods 18 (1), 33–44.
Felder, M., Trueeb, B., Stucki, A.O., Borcard, S., Stucki, J.D., Schnyder, B., Geiser, T., Guenat, O.T., 2019. Front. Bioeng. Biotechnol. 7, 5. https://doi.org/10.3389/fbioe.2019.00003.
Feng, J., Zheng, Y., Bhusari, S., Villiou, M., Pearson, S., del Campo, A., 2020. Adv. Funct. Mater. 30 (45), 2004327 https://doi.org/10.1002/adfm.202004327.
Ferrari, E.; Palma, C., 2020, 10 (9). DOI 10.3390/bios10090110..
Ferrell, N., Desai, R.R., Fleischman, A.J., Roy, S., Humes, H.D., Fissell, W.H., 2010. Biotechnol. Bioeng. 107 (4), 707–716. https://doi.org/10.1002/bit.22835.
Fois, C.A.M., Le, T.Y.L., Schindeler, A., Naficy, S., McClure, D.D., Read, M.N., Valtchev, P., Khademhosseini, A., Dehghani, F., 2019. Adv. Healthc. Mater. 8 (21), 1900968 https://doi.org/10.1002/adhm.201900968.
Foster, A.J., Chouhan, B., Regan, S.L., Rollison, H., Amberntsson, S., Andersson, L.C., Srivastava, A., Darnell, M., Cairns, J., Lazic, S.E., Jang, K.J., Petropolis, D.B., Kodella, K., Rubins, J.E., Williams, D., Hamilton, G.A., Ewart, L., Morgan, P., 2019. Arch. Toxicol. 93 (4), 1021–1037. https://doi.org/10.1007/s00204-019-02427-4.
Fralish, Z., Lotz, E.M., Chavez, T., Khodabukus, A., Bursac, N., 2021. Front. Cell Dev. Biol. 9, 35. https://doi.org/10.3389/fcell.2021.764732.
Frohlich, E.M., Zhang, X., Charest, J.L., 2012. Integrative biology : Quantitative Biosciences From Nano To Macro, 4, pp. 75–83. https://doi.org/10.1039/c1ib00096a, 1.
Frost, T.S., Jiang, L.A., Lynch, R.M., Zohar, Y., 2019. Micromachines 10 (8), 18. https://doi.org/10.3390/mi10080533.
Galvan-Chacon, V. P.; Zampouka, A.; Hesse, B.; Bohner, M.; Habibovic, P.; Barata, D., Adv. Eng. Mater., 13. DOI 10.1002/adem.202101467..
Geraili, A., Jafari, P., Hassani, M.S., Araghi, B.H., Mohammadi, M.H., Ghafari, A.M., Tamrin, S.H., Modarres, H.P., Kolahchi, A.R., Ahadian, S., Sanati-Nezhad, A., 2018. Adv Healthc Mater 7 (2). https://doi.org/10.1002/adhm.201700426.
Giaever, I., Keese, C.R., 1993. Nature 366 (6455), 591–592. https://doi.org/10.1038/366591a0.
Gibbs, S., Corsini, E., Spiekstra, S.W., Galbiati, V., Fuchs, H.W., DeGeorge, G., Troese, M., Hayden, P., Deng, W., Roggen, E., 2013. Toxicol. Appl. Pharmacol. 272 (2), 529–541. https://doi.org/10.1016/j.taap.2013.07.003.
Giobbe, G.G., Michielin, F., Luni, C., Giulitti, S., Martewicz, S., Dupont, S., Floreani, A., Elvassore, N., 2015. Nat. Methods 12 (7), 637–640. https://doi.org/10.1038/nmeth.3411.
Giridharan, G.A., Nguyen, M.D., Estrada, R., Parichehreh, V., Hamid, T., Ismahil, M.A., Prabhu, S.D., Sethu, P., 2010. Anal. Chem. 82 (18), 7581–7587. https://doi.org/10.1021/ac1012893.
Gough, A., Soto-Gutierrez, A., Vernetti, L., Ebrahimkhani, M.R., Stern, A.M., Taylor, D.L., 2021. Nat. Rev. Gastroenterol. Hepatol. 18 (4), 252–268. https://doi.org/10.1038/s41575-020-00386-1.
Guttenplan, A.P.M., Tahmasebi Birgani, Z., Giselbrecht, S., Truckenmüller, R.K., Habibović, P., 2021. Adv. Healthc. Mater. 10 (14), 2100371 https://doi.org/10.1002/adhm.202100371.
Haase, K., Offeddu, G.S., Gillrie, M.R., Kamm, R.D., 2020. Adv. Funct. Mater. 30 (48), 2002444 https://doi.org/10.1002/adfm.202002444.
Haes, A.J., Hall, W.P., Chang, L., Klein, W.L., Van Duyne, R.P., 2004. Nano Lett. 4 (6), 1029–1034. https://doi.org/10.1021/nl049670j.
Han, A., Yang, L., Frazier, A.B., 2007. Clin. Cancer Res. 13 (1), 139–143. https://doi.org/10.1158/1078-0432.ccr-06-1346.
Hao, S.; Ha, L.; Cheng, G.; Wan, Y.; Xia, Y.; Sosnoski, D. M.; Mastro, A. M.; Zheng, S. Y., 2018, 14 (12), e1702787. DOI 10.1002/smll.201702787..
Hassan, S., Heinrich, M., Cecen, B., Prakash, J., Zhang, Y.S., 2020. 26 - biomaterials for on-chip organ systems. In: Vrana, N.E., Knopf-Marques, H., Barthes, J. (Eds.), Biomaterials For Organ And Tissue Regeneration. Woodhead Publishing, pp. 669–707.
Henry, O.Y.F., Villenave, R., Cronce, M.J., Leineweber, W.D., Benz, M.A., Ingber, D.E., 2017. Lab Chip 17 (13), 2264–2271. https://doi.org/10.1039/c7lc00155j.
Hewes, S.A., Wilson, R.L., Estes, M.K., Shroyer, N.F., Blutt, S.E., Grande-Allen, K.J., 2020. Tissue Eng. B Rev. 26 (4), 313–326. https://doi.org/10.1089/ten.teb.2019.0334.
Hoang, P., Ma, Z., 2021. Acta Biomater. 132, 23–36. https://doi.org/10.1016/j.actbio.2021.01.026.
Hodgkinson, T., Amado, I.N., O'Brien, F.J., Kennedy, O.D., 2022. Apl. Bioeng. 6 (1), 17. https://doi.org/10.1063/5.0068277.
Huang, D., Liu, T.T., Liao, J.L., Maharjan, S., Xie, X., Perez, M., Anaya, I., Wang, S.W., Mayer, A.T., Kang, Z.X., Kong, W.J., Mainardi, V.L., Garciamendez-Mijares, C.E., Martinez, G.G., Moretti, M., Zhang, W.J., Gu, Z.Z., Ghaemmaghami, A.M., Zhang, Y. S., 2021. Proc. Natl. Acad. Sci. U.S.A. 118 (19), 10. https://doi.org/10.1073/pnas.2016146118.
Huh, D.D., 2015. Ann. Am. Thorac. Soc. 12 (Suppl. 1), S42–S44. https://doi.org/10.1513/AnnalsATS.201410-442MG. Suppl 1.
Huh, D., Fujioka, H., Tung, Y.C., Futai, N., Paine 3rd, R., Grotberg, J.B., Takayama, S., 2007. Proc. Natl. Acad. Sci. U.S.A. 104 (48), 18886–18891. https://doi.org/10.1073/pnas.0610868104.
Huh, D., Matthews, B.D., Mammoto, A., Montoya-Zavala, M., Hsin, H.Y., Ingber, D.E., 2010a. Science 328 (5986), 1662–1668. https://doi.org/10.1126/science.1188302.
Huh, D., Matthews, B.D., Mammoto, A., Montoya-Zavala, M., Hsin, H.Y., Ingber, D.E., 2010b. Science 328 (5986), 1662–1668. https://doi.org/10.1126/science.1188302.
Huh, D., Hamilton, G.A., Ingber, D.E., 2011. Trends Cell Biol. 21 (12), 745–754. https://doi.org/10.1016/j.tcb.2011.09.005.
Huh, D., Leslie, D.C., Matthews, B.D., Fraser, J.P., Jurek, S., Hamilton, G.A., Thorneloe, K.S., McAlexander, M.A., Ingber, D.E., 2012. Sci. Transl. Med. 4 (159) https://doi.org/10.1126/scitranslmed.3004249.
Humayun, M., Chow, C.W., Young, E.W.K., 2018. Lab Chip 18 (9), 1298–1309. https://doi.org/10.1039/c7lc01357d.
Imparato, G., Urciuolo, F., Netti, P.A., 2022. Bioengineering 9 (1), 28.
Ishahak, M., Hill, J., Amin, Q., Wubker, L., Hernandez, A., Mitrofanova, A., Sloan, A., Fornoni, A., Agarwal, A., 2020. Front. Bioeng. Biotechnol. 8 (1311) https://doi.org/10.3389/fbioe.2020.581163.
Jain, P., Sonti, S., Garruto, J., Mehta, R., Banga, A.K., 2012. J. Cosmet. Dermatol. 11 (2), 101–110. https://doi.org/10.1111/j.1473-2165.2012.00610.x.
Jain, A., Barrile, R., van der Meer, A., Mammoto, A., Mammoto, T., De Ceunynck, K., Aisiku, O., Otieno, M., Louden, C., Hamilton, G., Flaumenhaft, R., Ingber, D., 2018a. Clin. Pharmacol. Ther. 103 (2), 332–340. https://doi.org/10.1002/cpt.742.
Jain, A., Barrile, R., van der Meer, A.D., Mammoto, A., Mammoto, T., De Ceunynck, K., Aisiku, O., Otieno, M.A., Louden, C.S., Hamilton, G.A., Flaumenhaft, R., Ingber, D., 2018b. Clin. Pharmacol. Ther. 103 (2), 332–340. https://doi.org/10.1002/cpt.742.
Jang, K.J., Mehr, A.P., Hamilton, G.A., McPartlin, L.A., Chung, S.Y., Suh, K.Y., Ingber, D. E., 2013. Integr. Biol. 5 (9), 1119–1129. https://doi.org/10.1039/c3ib40049b.
Jang, M., Koh, I., Lee, S.J., Cheong, J.H., Kim, P., 2017. Sci. Rep. 7 https://doi.org/10.1038/srep41541.
Jang, K.J., Otieno, M.A., Ronxhi, J., Lim, H.K., Ewart, L., Kodella, K.R., Petropolis, D.B., Kulkarni, G., Rubins, J.E., Conegliano, D., Nawroth, J., Simic, D., Lam, W., Singer, M., Barale, E., Singh, B., Sonee, M., Streeter, A.J., Manthey, C., Jones, B., Srivastava, A., Andersson, L.C., Williams, D., Park, H., Barrile, R., Sliz, J., Herland, A., Haney, S., Karalis, K., Ingber, D.E., Hamilton, G.A., 2019. Sci. Transl. Med. 11 (517) https://doi.org/10.1126/scitranslmed.aax5516.
Jeon, H.M., Kim, K., Choi, K.C., Sung, G.Y., 2020. J. Ind. Eng. Chem. 82, 71–80. https://doi.org/10.1016/j.jiec.2019.09.044.

Jeong, S., Kim, S., Buonocore, J., Park, J., Welsh, C.J., Li, J.R., Han, A., 2018. IEEE Trans. Biomed. Eng. 65 (2), 431–439. https://doi.org/10.1109/tbme.2017.2773463.
Jusoh, N., Oh, S., Kim, S., Kim, J., Jeon, N.L., 2015. Lab Chip 15 (20), 3984–3988. https://doi.org/10.1039/C5LC00698H.
Karamikamkar, S., Behzadfar, E., Cheung, K.C., 2018. Biomed. Microdevices 20 (2). https://doi.org/10.1007/s10544-018-0260-1.
Katz, E., Willner, I., 2003. Electroanalysis 15 (11), 913–947.
Kavand, H.; Nasiri, R.; Herland, A., Adv. Mater. (n/a), 2107876. DOI https://doi.org/10.1002/adma.202107876.
Keese, C.R., Bhawe, K., Wegener, J., Giaever, I., 2002. Biotechniques 33 (4), 842–850. https://doi.org/10.2144/02334rr01.
Khalid, M.A.U., Kim, Y.S., Ali, M., Lee, B.G., Cho, Y.-J., Choi, K.H., 2020. Biochem. Eng. J. 155, 107469 https://doi.org/10.1016/j.bej.2019.107469.
Khedoe, P., Marges, E., Hiemstra, P., Ninaber, M., Geelhoed, M., 2020. Front. Immunol. 11 https://doi.org/10.3389/fimmu.2020.01990.
Khetani, S., Yong, K.W., Guan, K., Singh, A., Phani, A., Kollath, V.O., Kim, S., Karan, K., Sen, A., Sanati-Nezhad, A., 2020. Appl. Mater. Today 20, 100721. https://doi.org/10.1016/j.apmt.2020.100721.
Khot, M.I., Levenstein, M.A., de Boer, G.N., Armstrong, G., Maisey, T., Svavarsdottir, H. S., Andrew, H., Perry, S.L., Kapur, N., Jayne, D.G., 2020. Sci. Rep. 10 (1) https://doi.org/10.1038/s41598-020-72952-1.
Kim, H.J., Huh, D., Hamilton, G., Ingber, D.E., 2012. Lab Chip 12 (12), 2165–2174. https://doi.org/10.1039/C2LC40074J.
Kim, S., Lee, H., Chung, M., Jeon, N.L., 2013. Lab Chip 13 (8), 1489–1500. https://doi.org/10.1039/c3lc41320a.
Kim, S., LesherPerez, S.C., Kim, B.c.C., Yamanishi, C., Labuz, J.M., Leung, B., Takayama, S., 2016. Biofabrication 8 (1), 015021. https://doi.org/10.1088/1758-5090/8/1/015021.
Kim, H.J., Li, H., Collins, J.J., Ingber, D.E., 2016. Proc. Natl. Acad. Sci. U.S.A. 113 (1), E7–E15. https://doi.org/10.1073/pnas.1522193112.
Kim, J.J., Ellett, F., Thomas, C.N., Jalali, F., Anderson, R.R., Irimia, D., Raff, A.B., 2019a. Lab Chip 19 (18), 3094–3103. https://doi.org/10.1039/C9LC00399A.
Kim, B.S., Gao, G., Kim, J.Y., Cho, D.-W., 2019b. Adv. Healthc. Mater. 8 (7), 1801019 https://doi.org/10.1002/adhm.201801019.
Kim, J., Kim, K., Sung, G.Y., 2020. Int. J. Mol. Sci. 21 (22), 8475.
Kimura, H., Yamamoto, T., Sakai, H., Sakai, Y., Fujii, T., 2008. Lab Chip 8 (5), 741–746. https://doi.org/10.1039/B717091B.
Kotz, F., Arnold, K., Wagner, S., Bauer, W., Keller, N., Nargang, T.M., Helmer, D., Rapp, B.E., 2018. Adv. Eng. Mater. 20 (2), 1700699 https://doi.org/10.1002/adem.201700699.
Kulthong, K., Duivenvoorde, L., Sun, H., Confederat, S., Wu, J., Spenkelink, B., de Haan, L., Marin, V., van der Zande, M., Bouwmeester, H., 2020. Toxicology in vitro : an international journal published in association with BIBRA, 65, 104815. https://doi.org/10.1016/j.tiv.2020.104815.
Kung, Y.-C., Huang, K.-W., Fan, Y.-J., Chiou, P.-Y., 2015. Lab Chip 15 (8), 1861–1868. https://doi.org/10.1039/C4LC01211A.
Kustermann, S., Boess, F., Buness, A., Schmitz, M., Watzele, M., Weiser, T., Singer, T., Suter, L., Roth, A., 2013. Toxicol. Vitro 27 (5), 1589–1595. https://doi.org/10.1016/j.tiv.2012.08.019.
Kwak, B., Lee, Y., Lee, J., Lee, S., Lim, J., 2018. J. Contr. Release 275, 201–207. https://doi.org/10.1016/j.jconrel.2018.02.029.
Kwapiszewska, K., Michalczuk, A., Rybka, M., Kwapiszewski, R., Brzózka, Z., 2014. Lab Chip 14 (12), 2096–2104. https://doi.org/10.1039/C4LC00291A.
Lee, S.Y., Sung, J.H., 2018. Biotechnol. Bioeng. 115 (11), 2817–2827. https://doi.org/10.1002/bit.26793.
Lee, S., Jin, S.P., Kim, Y.K., Sung, G.Y., Chung, J.H., Sung, J.H., 2017. Biomed. Microdevices 19 (2), 14. https://doi.org/10.1007/s10544-017-0156-5.
Lee, S.W., Kwak, H.S., Kang, M.-H., Park, Y.-Y., Jeong, G.S., 2018a. Sci. Rep. 8 (1), 2365. https://doi.org/10.1038/s41598-018-20886-0.
Lee, J. M.; Park, D. Y.; Yang, L., 2018, 8 (1), 17145. DOI 10.1038/s41598-018-35216-7..
Lee, S., Lim, J., Yu, J., Ahn, J., Lee, Y., Jeon, N.L., 2019. Lab Chip 19 (12), 2071–2080. https://doi.org/10.1039/C9LC00148D.
Lee, J.M., Choi, J.W., Ahrberg, C.D., Choi, H.W., Ha, J.H., Mun, S.G., Mo, S.J., Chung, B. G., 2020. Microsyst. Nanoeng. 6 (1) https://doi.org/10.1038/s41378-020-0167-x.
Legant, W.R., Pathak, A., Yang, M.T., Deshpande, V.S., McMeeking, R.M., Chen, C.S., 2009. Proc. Natl. Acad. Sci. USA 106 (25), 10097–10102. https://doi.org/10.1073/pnas.0900174106.
Li, X., Tian, T., 2018a. Front. Pharmacol. 9, 1067. https://doi.org/10.3389/fphar.2018.01067.
Li, X., Tian, T., 2018b. Anal. Methods 10 (26), 3122–3130. https://doi.org/10.1039/c8ay00970h.
Li, Y., Wang, S., Huang, R., Huang, Z., Hu, B., Zheng, W., Yang, G., Jiang, X., 2015. Biomacromolecules 16 (3), 780–789. https://doi.org/10.1021/bm501680s.
Li, Z., Su, W., Zhu, Y., Tao, T., Li, D., Peng, X., Qin, J., 2017. Biomicrofluidics 11 (3), 034114. https://doi.org/10.1063/1.4984768.
Li, X., Soler, M., Belushkin, A., Yesilköy, F., Altug, H., 2018. Optofluidic nanoplasmonic biosensor for label-free live cell analysis in real time. SPIE 10509.
Li, Z., Li, D., Guo, Y., Wang, Y., Su, W., 2021. Biotechnol. Lett. 43 (2), 383–392. https://doi.org/10.1007/s10529-020-03043-4.
Lim, J.; Ching, H.; Yoon, J.-K.; Jeon, N. L.; Kim, Y., Nano Convergence 2021, 8 (1), 12. DOI 10.1186/s40580-021-00261-y.
Lin, D.S.Y., Guo, F., Zhang, B.Y., 2019. Nanotechnology 30 (2). https://doi.org/10.1088/1361-6528/aae7de.
Lin, Z., Luo, G., Du, W., Kong, T., Liu, C., Liu, Z., 2020. Small 16 (9), 1903899. https://doi.org/10.1002/smll.201903899.
Lin, K.C., Yen, C.Z., Yang, J.W., Chung, J.H.Y., Chen, G.Y., 2022. Mater. Today Adv. 14, 10. https://doi.org/10.1016/j.mtadv.2022.100216.
Lind, J.U., Busbee, T.A., Valentine, A.D., Pasqualini, F.S., Yuan, H.Y., Yadid, M., Park, S. J., Kotikian, A., Nesmith, A.P., Campbell, P.H., Vlassak, J.J., Lewis, J.A., Parker, K. K., 2017a. Nat. Mater. 16 (3), 303. https://doi.org/10.1038/nmat4782.
Lind, J.U., Yadid, M., Perkins, I., O'Connor, B.B., Eweje, F., Chantre, C.O., Hemphill, M. A., Yuan, H.Y., Campbell, P.H., Vlassak, J.J., Parker, K.K., 2017b. Lab Chip 17 (21), 3692–3703. https://doi.org/10.1039/c7lc00740j.
Liu, J., Zheng, H., Poh, P.S., Machens, H.G., Schilling, A.F., 2015. Int. J. Mol. Sci. 16 (7), 15997–16016. https://doi.org/10.3390/ijms160715997.
Liu, J., Li, S., Bhethanabotla, V.R., 2018. ACS Sens. 3 (1), 222–229. https://doi.org/10.1021/acssensors.7b00876.
Liu, W.W., Song, J., Du, X.H., Zhou, Y., Li, Y., Li, R., Lyu, L., He, Y.T., Hao, J.X., Ben, J., Wang, W., Shi, H.B., Wang, Q., 2019a. Acta Biomater. 91, 195–208. https://doi.org/10.1016/j.actbio.2019.04.053.
Liu, W.M., Sun, M.L., Han, K., Wang, J.Y., 2019b. Anal. Chem. 91 (21), 13601–13610. https://doi.org/10.1021/acs.analchem.9b02768.
Low, L.A., Mummery, C., Berridge, B.R., Austin, C.P., Tagle, D.A., 2021. Nat. Rev. Drug Discov. 20 (5), 345–361. https://doi.org/10.1038/s41573-020-0079-3.
Lugo-Cintrón, K.M., Ayuso, J.M., White, B.R., Harari, P.M., Ponik, S.M., Beebe, D.J., Gong, M.M., Virumbrales-Muñoz, M., 2020. Lab Chip 20 (9), 1586–1600. https://doi.org/10.1039/D0LC00099J.
Maitra, J., Shukla, V.K., 2014. Am. J. Polym. Sci. 4 (2), 25–31.
Maoz, B.M., Herland, A., Henry, O.Y.F., Leineweber, W.D., Yadid, M., Doyle, J., Mannix, R., Kujala, V.J., FitzGerald, E.A., Parker, K.K., Ingber, D.E., 2017. Lab Chip 17 (13), 2294–2302. https://doi.org/10.1039/c7lc00412e.
Marrero, D., Pujol-Vila, F., Vera, D., Gabriel, G., Illa, X., Elizalde-Torrent, A., Alvarez, M., Villa, R., 2021a. Biosens. Bioelectron. 181, 113156 https://doi.org/10.1016/j.bios.2021.113156.
Marrero, D., Pujol-Vila, F., Vera, D., Gabriel, G., Illa, X., Elizalde-Torrent, A., Alvarez, M., Villa, R., 2021b. Biosens. Bioelectron. 181, 15. https://doi.org/10.1016/j.bios.2021.113156.
Marturano-Kruik, A., Nava, M.M., Yeager, K., Chramiec, A., Hao, L., Robinson, S., Guo, E., Raimondi, M.T., Vunjak-Novakovic, G., 2018. Proc. Natl. Acad. Sci. USA 115 (6), 1256–1261. https://doi.org/10.1073/pnas.1714282115.
Maruccio, C., Scigliuzzo, M., Rizzato, S., Scarlino, P., Quaranta, G., Chiriaco, M.S., Monteduro, A.G., Maruccio, G., 2018. J. Intell. Mater. Syst. Struct. https://doi.org/10.1177/1045389X18803461, 1045389X18803461.
Maschmeyer, I., Lorenz, A.K., Schimek, K., Hasenberg, T., Ramme, A.P., Hubner, J., Lindner, M., Drewell, C., Bauer, S., Thomas, A., Sambo, N.S., Sonntag, F., Lauster, R., Marx, U., 2015a. Lab Chip 15 (12), 2688–2699. https://doi.org/10.1039/c5lc00392j.
Maschmeyer, I., Hasenberg, T., Jaenicke, A., Lindner, M., Lorenz, A.K., Zech, J., Garbe, L. A., Sonntag, F., Hayden, P., Ayehunie, S., Lauster, R., Marx, U., Materne, E.M., 2015b. Eur. J. Pharm. Biopharm. 95, 77–87. https://doi.org/10.1016/j.ejpb.2015.03.002.
Mathes, S.H., Ruffner, H., Graf-Hausner, U., 2014. Adv. Drug Deliv. Rev. 69, 81–102. https://doi.org/10.1016/j.addr.2013.12.006.
Maurer, M., Gresnigt, M.S., Last, A., Wollny, T., Berlinghof, F., Pospich, R., Cseresnyes, Z., Medyukhina, A., Graf, K., Gröger, M., Raasch, M., Siwczak, F., Nietzsche, S., Jacobsen, I.D., Figge, M.T., Hube, B., Huber, O., Mosig, A.S., 2019. Biomaterials 220, 119396. https://doi.org/10.1016/j.biomaterials.2019.119396.
Mazzocchi, A.R., Rajan, S.A.P., Votanopoulos, K.I., Hall, A.R., Skardal, A., 2018. Sci. Rep. 8 https://doi.org/10.1038/s41598-018-21200-8.
Mejias, J.C., Nelson, M.R., Liseth, O., Roy, K., 2020. Lab Chip 20 (19), 3601–3611. https://doi.org/10.1039/d0lc00644k.
Mermoud, Y., Felder, M., Stucki, J.D., Stucki, A.O., Guenat, O.T., 2018. Sensor. Actuator. B Chem. 255, 3647–3653. https://doi.org/10.1016/j.snb.2017.09.192.
Meyer, T., Tiburcy, M., Zimmermann, W.H., 2019. Adv. Drug Deliv. Rev. 140, 93–100. https://doi.org/10.1016/j.addr.2019.03.002.
Michel, M., L'Heureux, N., Pouliot, R., Xu, W., Auger, F.A., Germain, L., 1999. In Vitro Cell. Dev. Biol. Anim. 35 (6), 318. https://doi.org/10.1007/s11626-999-0081-x.
Middleton, K., Al-Dujaili, S., Mei, X., Günther, A., You, L., 2017. J. Biomech. 59, 35–42. https://doi.org/10.1016/j.jbiomech.2017.05.012.
Miller, P.G., Shuler, M.L., 2016a. Biotechnol. Bioeng. 113 (10), 2213–2227. https://doi.org/10.1002/bit.25989.
Miller, P.G., Shuler, M.L., 2016b. Biotechnol. Bioeng. 113 (10), 2213–2227. https://doi.org/10.1002/bit.25989.
Miller, J.S., Stevens, K.R., Yang, M.T., Baker, B.M., Nguyen, D.-H.T., Cohen, D.M., Toro, E., Chen, A.A., Galie, P.A., Yu, X., Chaturvedi, R., Bhatia, S.N., Chen, C.S., 2012. Nat. Mater. 11 (9), 768–774. https://doi.org/10.1038/nmat3357.
Miller, P.G., Chen, C.Y., Wang, Y.I., Gao, E., Shuler, M.L., 2020. Biotechnol. Bioeng. 117 (2), 486–497. https://doi.org/10.1002/bit.27188.
Milone, A., Monteduro, A.G., Rizzato, S., Leo, A., Di Natale, C., Kim, S.S., Maruccio, G., 2023. Adv. Sustain. Syst. 7 (2), 2200083. https://doi.org/10.1002/adsu.202200083.
Misun, P.M., Rothe, J., Schmid, Y.R.F., Hierlemann, A., Frey, O., 2016. Microsyst. Nanoeng. 2 (1), 16022 https://doi.org/10.1038/micronano.2016.22.
Mohammadi, M.H., Heidary Araghi, B., Beydaghi, V., Geraili, A., Moradi, F., Jafari, P., Janmaleki, M., Valente, K.P., Akbari, M., Sanati-Nezhad, A., 2016. Adv Healthc Mater 5 (19), 2459–2480. https://doi.org/10.1002/adhm.201600439.
Mollica, H., Palomba, R., Primavera, R., Decuzzi, P., 2019. ACS Biomater. Sci. Eng. 5 (9), 4834–4843. https://doi.org/10.1021/acsbiomaterials.9b00697.
Mondal, S., Hegarty, E., Martin, C., Gokce, S.K., Ghorashian, N., Ben-Yakar, A., 2016. Nat. Commun. 7 https://doi.org/10.1038/ncomms13023.
Mori, N., Morimoto, Y., Takeuchi, S., 2017. Biomaterials 116, 48–56. https://doi.org/10.1016/j.biomaterials.2016.11.031.

Mosadegh, B., Lockett, M.R., Minn, K.T., Simon, K.A., Gilbert, K., Hillier, S., Newsome, D., Li, H., Hall, A.B., Boucher, D.M., Eustace, B.K., Whitesides, G.M., 2015. Biomaterials 52, 262–271. https://doi.org/10.1016/j.biomaterials.2015.02.012.

Mougang, Y.K., Di Zazzo, L., Minieri, M., Capuano, R., Catini, A., Legramante, J.M., Paolesse, R., Bernardini, S., Di Natale, C., 2021. iScience 24 (8), 102851. https://doi.org/10.1016/j.isci.2021.102851.

Movilla, N., Borau, C., Valero, C., García-Aznar, J.M., 2018. Bone 107, 10–17. https://doi.org/10.1016/j.bone.2017.10.025.

Moya, A., Ortega-Ribera, M., Guimerà, X., Sowade, E., Zea, M., Illa, X., Ramon, E., Villa, R., Gracia-Sancho, J., Gabriel, G., 2018. Lab Chip 18 (14), 2023–2035. https://doi.org/10.1039/C8LC00456K.

Murdocca, M., Torino, F., Pucci, S., Costantini, M., Capuano, R., Greggi, C., Polidoro, C., Somma, G., Pasqualetti, V., Ketchanji Mougang, Y., Catini, A., Simone, G., Paolesse, R., Orlandi, A., Mauriello, A., Roselli, M., Magrini, A., Novelli, G., Di Natale, C., Sangiuolo, F.C., 2021. Cancers 13 (16), 4213.

Musah, S., Mammoto, A., Ferrante, T.C., Jeanty, S.S.F., Hirano-Kobayashi, M., Mammoto, T., Roberts, K., Chung, S., Novak, R., Ingram, M., Fatanat-Didar, T., Koshy, S., Weaver, J.C., Church, G.M., Ingber, D.E., 2017a. Nat. Biomed. Eng 1 (5), 12. https://doi.org/10.1038/s41551-017-0069.

Musah, S., Mammoto, A., Ferrante, T.C., Jeanty, S.S.F., Hirano-Kobayashi, M., Mammoto, T., Roberts, K., Chung, S., Novak, R., Ingram, M., Fatanat-Didar, T., Koshy, S., Weaver, J.C., Church, G.M., Ingber, D.E., 2017b. Nat. Biomed. Eng. 1 https://doi.org/10.1038/s41551-017-0069.

Musah, S., Dimitrakak, N., Camacho, D.M., Church, G.M., Ingber, D.E., 2018. Nat. Protoc. 13 (7), 1662–1685. https://doi.org/10.1038/s41596-018-0007-8.

Nagrath, S., Sequist, L.V., Maheswaran, S., Bell, D.W., Irimia, D., Ulkus, L., Smith, M.R., Kwak, E.L., Digumarthy, S., Muzikansky, A., Ryan, P., Balis, U.J., Tompkins, R.G., Haber, D.A., Toner, M., 2007. Nature 450 (7173), 1235–1239. http://www.nature.com/nature/journal/v450/n7173/suppinfo/nature06385_S1.html.

Nam, K.H., Smith, A.S.T., Lone, S., Kwon, S., Kim, D.H., 2015. Jala 20 (3), 201–215. https://doi.org/10.1177/2211068214557813.

Nargang, T.M., Brockmann, L., Nikolov, P.M., Schild, D., Helmer, D., Keller, N., Sachsenheimer, K., Wilhelm, E., Pires, L., Dirschka, M., Kolew, A., Schneider, M., Worgull, M., Giselbrecht, S., Neumann, C., Rapp, B.E., 2014. Lab Chip 14 (15), 2698–2708. https://doi.org/10.1039/C4LC00045E.

Nashimoto, Y., Hayashi, T., Kunita, I., Nakamasu, A., Torisawa, Y.-s., Nakayama, M., Takigawa-Imamura, H., Kotera, H., Nishiyama, K., Miura, T., Yokokawa, R., 2017. Integr. Biol. 9 (6), 506–518. https://doi.org/10.1039/c7ib00024c.

Nashimoto, Y., Okada, R., Hanada, S., Arima, Y., Nishiyama, K., Miura, T., Yokokawa, R., 2020. Biomaterials 229, 119547. https://doi.org/10.1016/j.biomaterials.2019.119547.

Natividad-Diaz, S.L., Browne, S., Jha, A.K., Ma, Z., Hossainy, S., Kurokawa, Y.K., George, S.C., Healy, K.E., 2019. Biomaterials 194, 73–83. https://doi.org/10.1016/j.biomaterials.2018.11.032.

Naumovska, E., Aalderink, G., Wong Valencia, C., Kosim, K., Nicolas, A., Brown, S., Vulto, P., Erdmann, K.S., Kurek, D., 2020. Int. J. Mol. Sci. 21 (14) https://doi.org/10.3390/ijms21144964.

Nawroth, J.C., Lucchesi, C., Cheng, D., Shukla, A., Ngyuen, J., Shroff, T., Varone, A., Karalis, K., Lee, H.H., Alves, S., Hamilton, G.A., Salmon, M., Villenave, R., 2020. Am. J. Respir. Cell Mol. Biol. 63 (5), 591–600. https://doi.org/10.1165/rcmb.2020-0010MA.

Neto, E.; Monteiro, A. C.; Leite Pereira, C.; Simões, M.; Conde, J. P.; Chu, V.; Sarmento, B.; Lamghari, M., Adv. Healthc. Mater. (n/a), 2102305. DOI https://doi.org/10.1002/adhm.202102305.

Neurath, M.F., 2014. Nat. Rev. Immunol. 14 (5), 329–342. https://doi.org/10.1038/nri3661.

Nguyen, H.H., Park, J., Kang, S., Kim, M., 2015. Sensors 15 (5), 10481–10510. https://doi.org/10.3390/s150510481.

Ning, R., Wang, F., Lin, L., 2016. TrAC, Trends Anal. Chem. 80, 255–265. https://doi.org/10.1016/j.trac.2015.08.017.

Nissan, X., Larribere, L., Saidani, M., Hurbain, I., Delevoye, C., Feteira, J., Lemaitre, G., Peschanski, M., Baldeschi, C., 2011. Proc. Natl. Acad. Sci. USA 108 (36), 14861–14866. https://doi.org/10.1073/pnas.1019070108.

Nitsche, K.S., Muller, I., Malcomber, S., Carmichael, P.L., Bouwmeester, H., 2022. Arch. Toxicol. 96 (3), 711–741. https://doi.org/10.1007/s00204-022-03234-0.

No, D.Y., Lee, K.H., Lee, J., Lee, S.H., 2015. Lab Chip 15 (19), 3822–3837. https://doi.org/10.1039/c5lc00611b.

Ong, L.J.Y., Ching, T., Chong, L.H., Arora, S., Li, H., Hashimoto, M., DasGupta, R., Yuen, P.K., Toh, Y.C., 2019. Lab Chip 19 (13), 2178–2191. https://doi.org/10.1039/c9lc00160c.

Ortega, M.A., Fernández-Garibay, X., Castaño, A.G., De Chiara, F., Hernández-Albors, A., Balaguer-Trias, J., Ramón-Azcón, J., 2019. Lab Chip 19 (15), 2568–2580. https://doi.org/10.1039/C9LC00285E.

Osaki, T., Sivathanu, V., Kamm, R.D., 2018a. Curr. Opin. Biotechnol. 52, 116–123. https://doi.org/10.1016/j.copbio.2018.03.011.

Osaki, T., Shin, Y., Sivathanu, V., Campisi, M., Kamm, R.D., 2018b. Adv. Healthc. Mater. 7 (2), 29. https://doi.org/10.1002/adhm.201700489.

Osaki, T., Uzel, S.G.M., Kamm, R.D., 2018c. Sci. Adv. 4 (10), 15. https://doi.org/10.1126/sciadv.aat5847.

Ouwehand, K., Spiekstra, S.W., Waaijman, T., Scheper, R.J., de Gruijl, T.D Gibbs, S., 2011. J. Leukoc. Biol. 90 (5), 1027–1033. https://doi.org/10.1189/jlb.0610374.

Park, J.Y., Ryu, H., Lee, B., Ha, D.-H., Ahn, M., Kim, S., Kim, J.Y., Jeon, N.L., Cho, D.-W., 2018. Biofabrication 11 (1), 015002. https://doi.org/10.1088/1758-5090/aae545.

Park, T.E., Mustafaoglu, N., Herland, A., Hasselkus, R., Mannix, R., FitzGerald, E.A., Prantil-Baun, R., Watters, A., Henry, O., Benz, M., Sanchez, H., McCrea, H.J., Goumnerova, L.C., Song, H.W., Palecek, S.P., Shusta, E., Ingber, D.E., 2019. Nat. Commun. 10, 12. https://doi.org/10.1038/s41467-019-10588-0.

Peel, S., Corrigan, A.M., Ehrhardt, B., Jang, K.J., Caetano-Pinto, P., Boeckeler, M., Rubins, J.E., Kodella, K., Petropolis, D.B., Ronxhi, J., Kulkarni, G., Foster, A.J., Williams, D., Hamilton, G.A., Ewart, L., 2019. Lab Chip 19 (3), 410–421. https://doi.org/10.1039/c8lc00829a.

Perazella, M.A., 2009. Clin. J. Am. Soc. Nephrol. : CJASN 4 (7), 1275–1283. https://doi.org/10.2215/CJN.02050309.

Phan, D.T.T., Wang, X.L., Craver, B.M., Sobrino, A., Zhao, D., Chen, J.C., Lee, L.Y.N., George, S.C., Lee, A.P., Hughes, C.C.W., 2017. Lab Chip 17 (3), 511–520. https://doi.org/10.1039/c6lc01422d.

Phillips, M., Basa-Dalay, V., Blais, J., Bothamley, G., Chaturvedi, A., Modi, K.D., Pandya, M., Natividad, M.P., Patel, U., Ramraje, N.N., Schmitt, P., Udwadia, Z.F., 2012. Tuberculosis 92 (4), 314–320. https://doi.org/10.1016/j.tube.2012.04.002.

Phillips, J.A., Grandhi, T.S.P., Davis, M., Gautier, J.C., Hariparsad, N., Keller, D., Sura, R., Van Vleet, T.R., 2020. Lab Chip 20 (3), 468–476. https://doi.org/10.1039/c9lc00925f.

Piccin, E., Coltro, W.K.T., Fracassi da Silva, J.A., Neto, S.C., Mazo, L.H., Carrilho, E., 2007. J. Chromatogr. A 1173 (1), 151–158. https://doi.org/10.1016/j.chroma.2007.09.081.

Piccinno, E., Monteduro, A.G., Dituri, F., Rizzato, S., Giannelli, G., Maruccio, G., 2021. Int. J. Mol. Sci. 22 (23), 13090 https://doi.org/10.3390/ijms222313090.

Piruska, A., Nikcevic, I., Lee, S.H., Ahn, C., Heineman, W.R., Limbach, P.A., Seliskar, C.J., 2005. Lab Chip 5 (12), 1348–1354.

Pocock, K., Delon, L., Bala, V., Rao, S., Priest, C., Prestidge, C., Thierry, B., 2017. ACS Biomater. Sci. Eng. 3 (6), 951–959. https://doi.org/10.1021/acsbiomaterials.7b00023.

Popova, A.A., Marcato, D., Peravali, R., Wehl, I., Schepers, U., Levkin, P.A., 2018. Adv. Funct. Mater. 28 (3) https://doi.org/10.1002/adfm.201703486.

Pourmand, A., Shaegh, S.A.M., Ghavifekr, H.B., Najafi Aghdam, E., Dokmeci, M.R., Khademhosseini, A., Zhang, Y.S., 2018. Sensor. Actuator. B Chem. 262, 625–636. https://doi.org/10.1016/j.snb.2017.12.132.

Pradhan, S., Banda, O.A., Farino, C.J., Sperduto, J.L., Keller, K.A., Taitano, R., Slater, J. H., 2020. Adv. Healthc. Mater. 9 (8) https://doi.org/10.1002/adhm.201901255.

Primiceri, E., Chiriacò, M.S., D'Amone, E., Urso, E., Ionescu, R.E., Rizzello, A., Maffia, M., Cingolani, R., Rinaldi, R., Maruccio, G., 2010. Biosens. Bioelectron. 25 (12), 2711–2716. https://doi.org/10.1016/j.bios.2010.04.032.

Primiceri, E., Chiriacò, M.S., Dioguardi, F., Monteduro, A.G., D'Amone, E., Rinaldi, R., Giannelli, G., Maruccio, G., 2011. Lab Chip 11 (23), 4081–4086. https://doi.org/10.1039/c1lc20540d.

Radhakrishnan, J., Varadaraj, S., Dash, S.K., Sharma, A., Verma, R.S., 2020. Drug Discov. Today 25 (5), 879–890. https://doi.org/10.1016/j.drudis.2020.03.002.

Raimondi, M.T., Albani, D., Giordano, C., 2019. Trends Mol. Med. 25 (9), 737–740. https://doi.org/10.1016/j.molmed.2019.07.006.

Raimondi, I., Izzo, L., Tunesi, M., Comar, M., Albania, D., Giordano, C., 2020. Front. Bioeng. Biotechnol. 7 https://doi.org/10.3389/fbioe.2019.00435.

Ramadan, Q., Ting, F.C.W., 2016. Lab Chip 16 (10), 1899–1908. https://doi.org/10.1039/C6LC00229C.

Ramis, G., Martinez-Alarcon, L., Quereda, J.J., Mendonca, L., Majado, M.J., Gomez-Coelho, K., Mrowiec, A., Herrero-Medrano, J.M., Abellaneda, J.M., Pallares, F.J., Rios, A., Ramirez, P., Munoz, A., 2013. Biomed. Microdevices 15 (6), 985–995. https://doi.org/10.1007/s10544-013-9790-8.

Ren, K., Zhou, J., Wu, H., 2013. Accounts Chem. Res. 46 (11), 2396–2406. https://doi.org/10.1021/ar300314s.

Ren, L., Zhou, X.W., Nasiri, R., Fang, J., Jiang, X., Wang, C.R., Qu, M.Y., Ling, H.N., Chen, Y.H., Xue, Y.M., Hartel, M.C., Tebon, P., Zhang, S.M., Kim, H.J., Yuan, X.C., Shamloo, A., Dokmeci, M.R., Li, S., Khademhosseini, A., Ahadian, S., Sun, W.J., 2020. Small Methods 4 (10). https://doi.org/10.1002/smtd.202000438.

Ren, X., Getschman, A.E., Hwang, S., Volkman, B.F., Klonisch, T., Levin, D., Zhao, M., Santos, S., Liu, S., Cheng, J., Lin, F., 2021. Lab Chip 21 (8), 1527–1539. https://doi.org/10.1039/d0lc01194k.

Risau, W., 1997. Nature 386 (6626), 671–674. https://doi.org/10.1038/386671a0.

Risueno, I., Valencia, L., Jorcano, J.L., Velasco, D., 2021. Apl. Bioeng. 5 (3), 12. https://doi.org/10.1063/5.0046376.

Rizzato, S., Scigliuzzo, M., Chiriacò, M.S., Scarlino, P., Monteduro, A.G., Maruccio, C., Tasco, V., Maruccio, G., 2017. J. Micromech. Microeng. 27 (12), 125002 https://doi.org/10.1088/1361-6439/aa8186.

Rizzato, S., Monteduro, A.G., Buja, I., Maruccio, C., Sabella, E., De Bellis, L., Luvisi, A., Maruccio, G., 2023. Biosensors 13 (2), 197. https://doi.org/10.3390/bios13020197.

Rizzato, S., Primiceri, E., Monteduro, A.G., Colombelli, A., Leo, A., Manera, M.G., Rella, R., Maruccio, G., 2018. Beilstein J. Nanotechnol. 9, 1582–1593. https://doi.org/10.3762/bjnano.9.150.

Rizzato, S., Leo, A., Monteduro, A.G., Chiriacò, M.S., Primiceri, E., Sirsi, F., Milone, A., Maruccio, G., 2020. Micromachines 11 (5), 491. https://doi.org/10.3390/mi11050491.

Rodenhizer, D., Gaude, E., Cojocari, D., Mahadevan, R., Frezza, C., Wouters, B.G., McGuigan, A.P., 2016. Nat. Mater. 15 (2), 227–234. https://doi.org/10.1038/nmat4482.

Rodriguez, L.G., Wu, X., Guan, J.-L., 2005. Wound-healing assay. In: Cell Migration. Springer, pp. 23–29.

Rogers, C.I., Pagaduan, J.V., Nordin, G.P., Woolley, A.T., 2011. Anal. Chem. 83 (16), 6418–6425. https://doi.org/10.1021/ac201539h.

Rogers, C.I., Oxborrow, J.B., Anderson, R.R., Tsai, L.-F., Nordin, G.P., Woolley, A.T., 2014. Sensor. Actuator. B Chem. 191, 438–444. https://doi.org/10.1016/j.snb.2013.10.008.

Roseti, L., Parisi, V., Petretta, M., Cavallo, C., Desando, G., Bartolotti, I., Grigolo, B., 2017. Mater. Sci. Eng. C 78, 1246–1262. https://doi.org/10.1016/j.msec.2017.05.017.

Sabhachandani, P., Motwani, V., Cohen, N., Sarkar, S., Torchilin, V., Konry, T., 2016. Lab Chip 16 (3), 497–505. https://doi.org/10.1039/c5lc01139f.

Savoji, H., Mohammadi, M.H., Rafatian, N., Toroghi, M.K., Wang, E.Y., Zhao, Y.M., Korolj, A., Ahadian, S., Radisic, M., 2019. Biomaterials 198, 3–26. https://doi.org/10.1016/j.biomaterials.2018.09.036.

Schmid, Y.R.F., Bürgel, S.C., Misun, P.M., Hierlemann, A., Frey, O., 2016. ACS Sens. 1 (8), 1028–1035. https://doi.org/10.1021/acssensors.6b00272.

Scialla, S., Palazzo, B., Barca, A., Carbone, L., Fiore, A., Monteduro, A.G., Maruccio, G., Sannino, A., Gervaso, F., 2017. Mater. Sci. Eng. C-Mater. Biol. Appl. 76, 1166–1174. https://doi.org/10.1016/j.msec.2017.03.060.

Sekine, H., Shimizu, T., Sakaguchi, K., Dobashi, I., Wada, M., Yamato, M., Kobayashi, E., Umezu, M., Okano, T., 2013. Nat. Commun. 4 (1), 1399. https://doi.org/10.1038/ncomms2406.

Sellgren, K.L., Butala, E.J., Gilmour, B.P., Randell, S.H., Grego, S., 2014. Lab Chip 14 (17), 3349–3358. https://doi.org/10.1039/C4LC00552J.

Serasanambati, M., Broza, Y.Y., Marmur, A., Haick, H., 2019. iScience 11, 178–188. https://doi.org/10.1016/j.isci.2018.12.008.

Shaegh, S.A.M., Ferrari, F.D., Zhang, Y.S., Nabavinia, M., Mohammad, N.B., Ryan, J., Pourmand, A., Laukaitis, E., Sadeghian, R.B., Nadhman, A., Shin, S.R., Nezhad, A.S., Khademhosseini, A., Dokmeci, M.R., 2016. Biomicrofluidics 10 (4), 044111. https://doi.org/10.1063/1.4955155.

Shah, R.K., Shum, H.C., Rowat, A.C., Lee, D., Agresti, J.J., Utada, A.S., Chu, L.Y., Kim, J. W., Fernandez-Nieves, A., Martinez, C.J., Weitz, D.A., 2008. Mater. Today 11 (4), 18–27. https://doi.org/10.1016/s1369-7021(08)70053-1.

Shah, P., Fritz, J.V., Glaab, E., Desai, M.S., Greenhalgh, K., Frachet, A., Niegowska, M., Estes, M., Jäger, C., Seguin-Devaux, C., Zenhausern, F., Wilmes, P., 2016. Nat. Commun. 7 (1), 11535 https://doi.org/10.1038/ncomms11535.

Shang, Y.X., Chen, Z.Y., Zhang, Z.H., Yang, Y.Z., Zhao, Y.J., 2020. Bio-Des. Manuf. 3 (3), 266–280. https://doi.org/10.1007/s42242-020-00073-9.

Shintu, L., Baudoin, R., Navratil, V., Prot, J.M., Pontoizeau, C., Defernez, M., Blaise, B.J., Domange, C., Pery, A.R., Toulhoat, P., Legallais, C., Brochot, C., Leclerc, E., Dumas, M.E., 2012a. Anal. Chem. 84 (4), 1840–1848. https://doi.org/10.1021/ac2011075.

Shintu, L., Baudoin, R., Navratil, V., Prot, J.M., Pontoizeau, C., Defernez, M., Blaise, B.J., Domange, C., Pery, A.R., Toulhoat, P., Legallais, C., Brochot, C., Leclerc, E., Dumas, M.E., 2012b. Anal. Chem. 84 (4), 1840–1848. https://doi.org/10.1021/ac2011075.

Shum, H.C., Lee, D., Yoon, I., Kodger, T., Weitz, D.A., 2008. Langmuir 24 (15), 7651–7653. https://doi.org/10.1021/la801833a.

Si, L.L., Bai, H.Q., Oh, C.Y., Jin, L., Prantil-Baun, R., Ingber, D.E., 2021. Microbiol. Spectr. 9 (2), 10. https://doi.org/10.1128/Spectrum.00257-21.

Sidorov, V.Y., Samson, P.C., Sidorova, T.N., Davidson, J.M., Lim, C.C., Wikswo, J.P., 2017. Acta Biomater. 48, 68–78. https://doi.org/10.1016/j.actbio.2016.11.009.

Skardal, A., Shupe, T., Atala, A., 2016. Drug Discov. Today 21 (9), 1399–1411. https://doi.org/10.1016/j.drudis.2016.07.003.

Sobrino, A., Phan, D.T.T., Datta, R., Wang, X.L., Hachey, S.J., Romero-Lopez, M., Gratton, E., Lee, A.P., George, S.C., Hughes, C.C.W., 2016a. Sci. Rep. 6, 11. https://doi.org/10.1038/srep31589.

Sobrino, A., Phan, D.T.T., Datta, R., Wang, X., Hachey, S.J., Romero-López, M., Gratton, E., Lee, A.P., George, S.C., Hughes, C.C.W., 2016b. Sci. Rep. 6 (1), 31589 https://doi.org/10.1038/srep31589.

Song, H.J., Lim, H.Y., Chun, W., Choi, K.C., Sung, J.H., Sung, G.Y., 2017. J. Ind. Eng. Chem. 56, 375–381. https://doi.org/10.1016/j.jiec.2017.07.034.

Song, H.J., Lim, H.Y., Chun, W., Choi, K.C., Lee, T.-y., Sung, J.H., Sung, G.Y., 2018a. J. Ind. Eng. Chem. 60, 355–359. https://doi.org/10.1016/j.jiec.2017.11.022.

Song, J., Miermont, A., Lim, C.T., Kamm, R.D., 2018b. Sci. Rep. 8 (1), 17949 https://doi.org/10.1038/s41598-018-36381-5.

Sorba, F., Poulin, A., Ischer, R., Shea, H., Martin-Olmos, C., 2019. Lab Chip 19 (12), 2138–2146. https://doi.org/10.1039/c9lc00075e.

Soucy, J.R., Bindas, A.J., Koppes, A.N., Koppes, R.A., 2019. iScience 21, 521–548. https://doi.org/10.1016/j.isci.2019.10.052.

Srinivasan, B., Kolli, A.R., Esch, M.B., Abaci, H.E., Shuler, M.L., Hickman, J.J., 2015. Jala 20 (2), 107–126. https://doi.org/10.1177/2211068214561025.

Sriram, G., Alberti, M., Dancik, Y., Wu, B., Wu, R.G., Feng, Z.X., Ramasamy, S., Bigliardi, P.L., Bigliardi-Qi, M., Wang, Z.P., 2018. Mater. Today 21 (4), 326–340. https://doi.org/10.1016/j.mattod.2017.11.002.

Stucki, A.O., Stucki, J.D., Hall, S.R.R., Felder, M., Mermoud, Y., Schmid, R.A., Geiser, T., Guenat, O.T., 2015. Lab Chip 15 (5), 1302–1310. https://doi.org/10.1039/c4lc01252f.

Stucki, J.D., Hobi, N., Galimov, A., Stucki, A.O., Schneider-Daum, N., Lehr, C.M., Huwer, H., Frick, M., Funke-Chambour, M., Geiser, T., Guenat, O.T., 2018. Sci. Rep. 8, 13. https://doi.org/10.1038/s41598-018-32523-x.

Sun, Q., Tan, S.H., Chen, Q.S., Ran, R., Hui, Y., Chen, D., Zhao, C.X., 2018. ACS Biomater. Sci. Eng. 4 (12), 4425–4433. https://doi.org/10.1021/acsbiomaterials.8b00904.

Sun, W.J., Luo, Z.M., Lee, J., Kim, H.J., Lee, K., Tebon, P., Feng, Y.D., Dokmeci, M.R., Sengupta, S., Khademhosseini, A., 2019. Adv. Healthc. Mater. 8 (4), 12. https://doi.org/10.1002/adhm.201801363.

Swami, P., Sharma, A., Anand, S., Gupta, S., 2021. Biosens. Bioelectron. 182, 113190 https://doi.org/10.1016/j.bios.2021.113190.

Tan, K., Keegan, P., Rogers, M., Lu, M.J., Gosset, J.R., Charest, J., Bale, S.S., 2019. Lab Chip 19 (9), 1556–1566. https://doi.org/10.1039/c8lc01262h.

Tang, Q.Q., Li, X.Y., Lai, C., Li, L., Wu, H.K., Wang, Y.J., Shi, X.T., 2021. Bioact. Mater. 6 (1), 169–178. https://doi.org/10.1016/j.bioactmat.2020.07.016.

Tasoglu, S., Demirci, U., 2013. Trends Biotechnol. 31 (1), 10–19. https://doi.org/10.1016/j.tibtech.2012.10.005.

Thacker, V.V., Sharma, K., Dhar, N., Mancini, G.F., Sordet-Dessimoz, J., McKinney, J.D., 2021. EMBO Rep. 22 (6), 19. https://doi.org/10.15252/embr.202152744.

Theobald, J., Ghanem, A., Wallisch, P., Banaeiyan, A.A., Andrade-Navarro, M.A., Taskova, K., Haltmeier, M., Kurtz, A., Becker, H., Reuter, S., Mrowka, R., Cheng, X. L., Wolfl, S., 2018. ACS Biomater. Sci. Eng. 4 (1), 78–89. https://doi.org/10.1021/acsbiomaterials.7b00417.

Theobald, J., Maaty, M.A.A., Kusterer, N., Wetterauer, B., Wink, M., Cheng, X.L., Wolfl, S., 2019. Sci. Rep. 9, 11. https://doi.org/10.1038/s41598-019-40851-9.

Toepke, M.W., Beebe, D.J., 2006. Lab Chip 6 (12), 1484–1486. https://doi.org/10.1039/B612140C.

Tsamandouras, N., Kostrzewski, T., Stokes, C.L., Griffith, L.G., Hughes, D.J., Cirit, M., 2017. J. Pharmacol. Exp. Therapeut. 360 (1), 95–105. https://doi.org/10.1124/jpet.116.237495.

Vailhé, B., Vittet, D., Feige, J.-J., 2001. Lab. Invest. 81 (4), 439–452. https://doi.org/10.1038/labinvest.3780252.

Valencia, L., Canalejas-Tejero, V., Clemente, M., Fernaud, I., Holgado, M., Jorcano, J.L., Velasco, D., 2021. Sci. Rep. 11 (1), 14. https://doi.org/10.1038/s41598-021-91875-z.

van den Berge, M., Ten Hacken, N.H.T., Cohen, J., Douma, W.R., Postma, D.S., 2011. Chest 139 (2), 412–423. https://doi.org/10.1378/chest.10-1210.

van den Broek, L.J., Bergers, L., Reijnders, C.M.A., Gibbs, S., 2017. Stem Cell Rev. Rep. 13 (3), 418–429. https://doi.org/10.1007/s12015-017-9737-1.

van der Helm, M.W., van der Meer, A.D., Eijkel, J.C.T., van den Berg, A., Segerink, L.I., 2016. Tissue Barriers 4 (1). https://doi.org/10.1080/21688370.2016.1142493.

van Dijk, C.G.M., Brandt, M.M., Poulis, N., Anten, J., van der Moolen, M., Kramer, L., Homburg, E., Louzao-Martinez, L., Pei, J.Y., Krebber, M.M., van Balkom, B.W.M., de Graaf, P., Duncker, D.J., Verhaar, M.C., Luttge, R., Cheng, C., 2020. Lab Chip 20 (10), 1827–1844. https://doi.org/10.1039/d0lc00059k.

van Midwoud, P.M., Janse, A., Merema, M.T., Groothuis, G.M., Verpoorte, E., 2012. Anal. Chem. 84 (9), 3938–3944. https://doi.org/10.1021/ac300771z.

Varone, A., Nguyen, J.K., Leng, L., Barrile, R., Sliz, J., Lucchesi, C., Wen, N.R., Gravanis, A., Hamilton, G.A., Karalis, K., Hinojosa, C.D., 2021. Biomaterials 275, 12. https://doi.org/10.1016/j.biomaterials.2021.120957.

Vernetti, L., Gough, A., Baetz, N., Blutt, S., Broughman, J.R., Brown, J.A., Foulke-Abel, J., Hasan, N., J Kelly, E., Kovbasnjuk, O., Repper, J., Senutovitch, N., Stabb, J., Yeung, C., Zachos, N.C., Donowitz, M., Estes, M., Himmelfarb, J., Truskey, G., Wikswo, J.P., Taylor, D.L., 2017. Sci. Rep. 7 https://doi.org/10.1038/srep42296.

Vormann, M.K., Vriend, J., Lanz, H.L., Gijzen, L., van den Heuvel, A., Hutter, S., Joore, J., Trietsch, S.J., Stuut, C., Nieskens, T.T.G., Peters, J.G.P., Ramp, D., Caj, M., Russel, F. G.M., Jacobsen, B., Roth, A., Lu, S., Polli, J.W., Naidoo, A.A., Vulto, P., Masereeuw, R., Wilmer, M.J., Suter-Dick, L., 2021. J. Pharmaceut. Sci. 110 (4), 1601–1614. https://doi.org/10.1016/j.xphs.2021.01.028.

Wagner, I., Materne, E.M., Brincker, S., Sussbier, U., Fradrich, C., Busek, M., Sonntag, F., Sakharov, D.A., Trushkin, E.V., Tonevitsky, A.G., Lauster, R., Marx, U., 2013a. Lab Chip 13 (18), 3538–3547. https://doi.org/10.1039/c3lc50234a.

Wagner, I., Materne, E.M., Brincker, S., Sussbier, U., Fradrich, C., Busek, M., Sonntag, F., Sakharov, D.A., Trushkin, E.V., Tonevitsky, A.G., Lauster, R., Marx, U., 2013b. Lab Chip 13 (18), 3538–3547. https://doi.org/10.1039/c3lc50234a.

Wang, T., Green, R., Nair, R.R., Howell, M., Mohapatra, S., Guldiken, R., Mohapatra, S.S., 2015. Sensors (Basel, Switzerland 15 (12), 32045–32055. https://doi.org/10.3390/s151229909.

Wang, X., Phan, D.T.T., Sobrino, A., George, S.C., Hughes, C.C.W., Lee, A.P., 2016. Lab Chip 16 (2), 282–290. https://doi.org/10.1039/C5LC01050K.

Wang, Y.I., Abaci, H.E., Shuler, M.L., 2017. Biotechnol. Bioeng. 114 (1), 184–194. https://doi.org/10.1002/bit.26045.

Wang, Y.I., Carmona, C., Hickman, J.J., Shuler, M.L., 2018. Adv. Healthc. Mater. 7 (2) https://doi.org/10.1002/adhm.201701000.

Wang, T., Green, R., Howell, M., Martinez, T., Dutta, R., Mohapatra, S., Mohapatra, S.S., 2020. Nanomed. Nanotechnol. Biol. Med. 30, 102294 https://doi.org/10.1016/j.nano.2020.102294.

Wang, L., Wu, J., Chen, J., Dou, W., Zhao, Q., Han, J., Liu, J., Su, W., Li, A., Liu, P., An, Z., Xu, C., Sun, Y., 2021. Talanta 226, 122097. https://doi.org/10.1016/j.talanta.2021.122097.

Ware, B.R., Khetani, S.R., 2017. Trends Biotechnol. 35 (2), 172–183. https://doi.org/10.1016/j.tibtech.2016.08.001.

Wegener, J., Keese, C.R., Giaever, I., 2000. Exp. Cell Res. 259 (1), 158–166.

Whelan, I.T., Moeendarbary, E., Hoey, D.A., Kelly, D.J., 2021. Biofabrication 13 (3), 22. https://doi.org/10.1088/1758-5090/ac04f7.

Wilmer, M.J., Ng, C.P., Lanz, H.L., Vulto, P., Suter-Dick, L., Masereeuw, R., 2016. Trends Biotechnol. 34 (2), 156–170. https://doi.org/10.1016/j.tibtech.2015.11.001.

Wong, J.F., Simmons, C.A., 2019. Lab Chip 19 (6), 1060–1070. https://doi.org/10.1039/c8lc01321g.

World Health Organisation [WHO]. The Top 10 Causes of Death. Geneva: World Health Organization..

Wu, M.X., Ouyang, Y.S., Wang, Z.Y., Zhang, R., Huang, P.H., Chen, C.Y., Li, H., Li, P., Quinn, D., Dao, M., Suresh, S., Sadovsky, Y., Huang, T.J., 2017. Proc. Natl. Acad. Sci. U.S.A. 114 (40), 10584–10589. https://doi.org/10.1073/pnas.1709210114.

Wu, Q., Wei, X., Pan, Y., Zou, Y., Hu, N., Wang, P., 2018. Biomed. Microdevices 20 (4), 82. https://doi.org/10.1007/s10544-018-0329-x.

Wu, Z.H., Gong, Z.Y., Ao, Z., Xu, J.H., Cai, H.W., Muhsen, M., Heaps, S., Bondesson, M., Guo, S.S., Guo, F., 2020. ACS Appl. Bio Mater. 3 (9), 6273–6283. https://doi.org/10.1021/acsabm.0c00768.

Wufuer, M., Lee, G., Hur, W., Jeon, B., Kim, B.J., Choi, T.H., Lee, S., 2016. Sci. Rep. 6 (1), 37471 https://doi.org/10.1038/srep37471.

Xiao, C., Luong, J.H., 2003. Biotechnol. Prog. 19 (3), 1000–1005.
Xiao, Y., Kim, D., Dura, B., Zhang, K., Yan, R., Li, H., Han, E., Ip, J., Zou, P., Liu, J., Chen, A.T., Vortmeyer, A.O., Zhou, J., Fan, R., 2019. Adv. Sci. 6 (8), 1801531 https://doi.org/10.1002/advs.201801531.
Xu, H., Li, Z., Yu, Y., Sizdahkhani, S., Ho, W.S., Yin, F., Wang, L., Zhu, G., Zhang, M., Jiang, L., Zhuang, Z., Qin, J., 2016. Sci. Rep. 6 (1), 36670 https://doi.org/10.1038/srep36670.
Yang, X.Y., Li, K.Y., Zhang, X., Liu, C., Guo, B.K., Wen, W.J., Gao, X.H., 2018. Lab Chip 18 (3), 486–495. https://doi.org/10.1039/c7lc01224a.
Yang, W.G., Cai, S.X., Yuan, Z., Lai, Y.B., Yu, H.B., Wang, Y.C., Liu, L.Q., 2019. Mater. Des. 183. https://doi.org/10.1016/j.matdes.2019.108182.
Yin, L., Du, G., Zhang, B., Zhang, H., Yin, R., Zhang, W., Yang, S.M., 2020. Sci. Rep. 10 (1), 6568. https://doi.org/10.1038/s41598-020-63096-3.
Yin, F.C., Zhang, X., Wang, L., Wang, Y.Q., Zhu, Y.J., Li, Z.Y., Tao, T.T., Chen, W.W., Yu, H., Qin, J.H., 2021. Lab Chip 21 (3), 571–581. https://doi.org/10.1039/d0lc00921k.
Young, M., Rodenhizer, D., Dean, T., D'Arcangelo, E., Xu, B., Ailles, L., McGuigan, A.P., 2018. Biomaterials 164, 54–69. https://doi.org/10.1016/j.biomaterials.2018.01.038.
Young, A.T., Rivera, K.R., Erb, P.D., Daniele, M.A., 2019. ACS Sens. 4 (6), 1454–1464. https://doi.org/10.1021/acssensors.8b01549.
Zakrzewski, W., Dobrzynski, M., Szymonowicz, M., Rybak, Z., 2019. Stem Cell Res. Ther. 10 (1), 68. https://doi.org/10.1186/s13287-019-1165-5.
Zamprogno, P., Wuthrich, S., Achenbach, S., Thoma, G., Stucki, J.D., Hobi, N., Schneider-Daum, N., Lehr, C.M., Huwer, H., Geiser, T., Schmid, R.A., Guenat, O.T., 2021. Commun. Biol. 4 (1), 10. https://doi.org/10.1038/s42003-021-01695-0.
Zeitouni, N.E., Chotikatum, S., von Köckritz-Blickwede, M Naim, H.Y., 2016. Mol. Cell. Pediatr. 3 (1), 14. https://doi.org/10.1186/s40348-016-0041-y.
Zhang, C., Zhao, Z.Q., Rahim, N.A.A., van Noort, D., Yu, H., 2009. Lab Chip 9 (22), 3185–3192. https://doi.org/10.1039/b915147h.
Zhang, Y.S., Arneri, A., Bersini, S., Shin, S.R., Zhu, K., Goli-Malekabadi, Z., Aleman, J., Colosi, C., Busignani, F., Dell'Erba, V., Bishop, C., Shupe, T., Demarchi, D., Moretti, M., Rasponi, M., Dokmeci, M.R., Atala, A., Khademhosseini, A., 2016. Biomaterials 110, 45–59. https://doi.org/10.1016/j.biomaterials.2016.09.003.
Zhang, Y. S.; Aleman, J.; Shin, S. R.; Kilic, T., 2017, 114 (12), E2293-e2302. DOI 10.1073/pnas.1612906114..
Zhang, M., Xu, C., Jiang, L., Qin, J.H., 2018a. Toxicol. Res. 7 (6), 13. https://doi.org/10.1039/c8tx00156a.
Zhang, B.Y., Korolj, A., Lai, B.F.L., Radisic, M., 2018b. Nat. Rev. Mater. 3 (8), 257–278. https://doi.org/10.1038/s41578-018-0034-7.
Zhang, J., Chen, Z.Z., Zhang, Y.Y., Wang, X.C., Ouyang, J., Zhu, J.F., Yan, Y.C., Sun, X. W., Wang, F., Li, X.R., Ye, H., Sun, S.Q., Yu, Q.D., Sun, J.W., Ge, J.J., Li, Q.W., Han, Q.Q., Pu, Y.P., Gu, Z.Z., 2021. Lab Chip 21 (19), 3804–3818. https://doi.org/10.1039/d1lc00099c.
Zhang, X.; Karim, M.; Hasan, M. M., 2022, 14 (3). DOI 10.3390/cancers14030648..
Zhu, Y. J.; Sun, L. Y.; Wang, Y.; Cai, L. J.; Zhang, Z. H.; Shang, Y. X.; Zhao, Y. J., Adv. Mater., 10. DOI 10.1002/adma.202108972..
Zizzari, A., Bianco, M., Carbone, L., Perrone, E., Amato, F., Maruccio, G., Rendina, F., Arima, V., 2017. Materials 10 (12). https://doi.org/10.3390/ma10121411.
Zoio, P., Oliva, A., 2022. Pharmaceutics 14 (3), 30. https://doi.org/10.3390/pharmaceutics14030682.