

Peer-Reviewed Publications (~2500 citations as listed below [total: 2006-2010])

1. Freyer JP, Sutherland RM (1980) Selective dissociation and characterization of cells from different regions of multicell tumor spheroids. *Cancer Res.* **40**: 3956-3965. [146: 8]
2. Landry J, Freyer JP, Sutherland RM (1981) Shedding of mitotic cells from the surface of multicell spheroids during growth. *J. Cell. Physiol.* **106**: 23-32. [42:9]
3. Landry J, Freyer JP, Sutherland RM (1982) A model for the growth of multicellular tumor spheroids. *Cell Tiss. Kinet.* **15**: 585-594. [48:10]
4. Wigle J, Freyer JP, Sutherland RM (1983) Use of a sedimentation column to obtain uniformly-sized populations of multicell spheroids. *In Vitro Cell. Develop. Biol.* **19**: 361-366. [10: 0]
5. Freyer JP, Sutherland RM (1983) Determination of diffusion constants for metabolites in multicell tumor spheroids. *Adv. Exp. Med. Biol.* **159**: 463-475. [19: 3]
6. Mueller-Klieser W, Freyer JP, Sutherland RM (1983) Evidence for a major role of glucose in controlling development of necrosis in EMT6/Ro multicell tumor spheroids. *Adv. Exp. Med. Biol.* **159**: 487-495. [30: 1]
7. Freyer JP, Tustanoff E, Franko AJ, Sutherland, RM (1984) In situ oxygen consumption rates of cells in V-79 multicellular spheroids during growth. *J. Cell. Physiol.* **188**: 53-61. [52:6]
8. Freyer JP, Wilder ME, Raju MR (1984) Coulter volume cell sorting to improve the precision of radiation survival assays. *Radiat. Res.* **97**: 120-614. [25: 3]
9. Freyer JP, Sutherland RM (1985) A reduction in the in situ rates of oxygen and glucose consumption of cells in EMT6/Ro spheroids during growth. *J. Cell. Physiol.* **124**: 516-524. [90:27]
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11. Mueller-Klieser W, Freyer JP, Sutherland RM (1986) Influence of glucose and oxygen supply conditions on the oxygenation of multicellular spheroids. *Br. J. Cancer* **53**: 345-353. [78:17]
12. Freyer JP, Sutherland RM (1986) Regulation of growth saturation and development of necrosis in EMT6/Ro multicellular spheroids by the glucose and oxygen supply. *Cancer Res.* **46**: 3504-3512. [152:41]
13. Freyer JP, Sutherland RM (1986) Proliferative and clonogenic heterogeneity of cells from EMT6/Ro multicellular spheroids induced by the glucose and oxygen supply. *Cancer Res.* **46**: 3513-3520. [66:18]
14. Freyer JP, Wilder ME, Raju MR (1987) Rapid assay for cell age response to radiation by electronic volume flow cell sorting. *Int. J. Radiat. Biol.* **52**: 91-106. [13:2]
15. Freyer JP, Wilder ME, Jett JH (1987) Viable sorting of intact multicellular spheroids by flow cytometry. *Cytometry* **8**: 427-436. [8:4]
16. Raju MR, Carpenter SG, Chmielewski JJ, Schillaci ME, Wilder ME, Freyer JP, Johnson NF, Schor PL, Sebring RJ, Goodhead DT (1987) Radiobiology of ultrasoft x-rays. I. Cultured hamster cells (V79). *Radiat. Res.* **110**: 396-412. [84: 13]
17. Freyer JP (1988) Role of necrosis in regulating the growth saturation of multicellular spheroids. *Cancer Res.* **48**: 2432-2439. [96:19]
18. Freyer JP, Schor PL, Saponara AG (1988) Partial purification of a protein growth inhibitor from multicellular spheroids. *Biochem. Biophys. Res. Comm.* **152**: 463-368. [17: 2]

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19. Freyer JP, Schor PL (1989) Automated selective dissociation of cells from different regions of multicellular spheroids. *In Vitro Cell. Develop. Biol.* **25**: 9-19. [21: 0]
20. Freyer JP, Schor PL (1989) Regrowth kinetics of cells from different regions of multicellular spheroids of four cell lines. *J. Cell. Physiol.* **138**: 384-392. [26:4]
21. Freyer JP, Wilder ME, Schor PL, Coulter J, Raju MR (1989) A simple electronic volume cell sorter for clonogenicity assays. *Cytometry* **10**: 273-281. [7: 1]
22. Freyer JP, Fillak D, Jett JH (1989) Use of xanthan gum to suspend large particles during flow cytometric analysis and sorting. *Cytometry* **10**: 803-806. [2:1]
23. Freyer JP, Schillaci ME, Raju MR (1989) Measurement of the G-value for 1.5 keV x-rays. *Int. J. Radiat. Biol.* **56**: 885-892. [8: 0]
24. Sillerud LO, Freyer JP, Neeman M, Mattingly MA (1990) Proton NMR microscopy of multicellular tumor spheroid microphysiology. *J. Magn. Reson. Med.* **16**: 385-394. [25: 2]
25. Freyer JP, Fink NH, Schor PL, Coulter JH, Neeman M, Sillerud LO (1990) A system for viably maintaining a stirred suspension of multicellular spheroids during NMR spectroscopy. *NMR Biomed.* **3**: 195-205. [16: 1]
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27. Neeman M, Jarrett KA, Sillerud LO, Freyer JP (1991) Self diffusion of water in multicellular spheroids measured by magnetic resonance microimaging. *Cancer Res.* **51**: 4072-4079. [42: 1]
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30. Freyer JP, Jarrett K, Carpenter S, Raju MR (1991) Oxygen enhancement ratio as a function of dose and cell cycle stage for radiation resistant and sensitive CHO cells. *Radiat. Res.* **127**: 297-307. [16: 4]
31. Marusic M, Bajzer Z, Freyer JP, Vuk-Pavlovic S, (1991) Modeling autostimulation of growth in multicellular tumor spheroids. *Int. J. Biomed. Comput.* **29**: 149-158. [14: 2]
32. Marusic M, Bajzer Z, Freyer JP, Vuk-Pavlovic, S (1994) Analysis of growth of multicellular tumor spheroids by mathematical models. *Cell Prolif.* **27**: 73-94. [75:34]
33. Marusic M, Bajzer Z, Vuk-Pavlovic S, Freyer JP (1994) Tumor growth in vivo and as multicellular spheroids compared by mathematical models. *Bull. Math. Biol.* **56**: 617-631. [45:15]
34. Freyer JP (1994) Rates of oxygen consumption for proliferating and quiescent cells isolated from multicellular tumor spheroids. *Adv. Exp. Med. Biol.* **345**: 335-342. [28: 7]
35. Stegman LD, Freyer JP, Ben-Yoseph O, Breakfield XO, Ross BD (1996) ³¹P MRS evaluation of a cancer gene therapy paradigm: assessment of ganciclovir toxicity in glioma tumors stably expressing the herpes simplex virus thymidine kinase gene. *NMR Biomed.* **9**: 364-368. [5: 0]

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36. Kunz-Schughart LA, Freyer JP (1997) Adaptation of an automated selective dissociation procedure to multicellular spheroids of oncogene-transformed fibroblasts, *In Vitro Cell. Devel. Biol.*, **33**: 73-76. [7: 1]
37. Kunz-Schughart LA, Habbersett RC, Freyer JP (1997) Mitochondrial function in oncogene-transfected rat fibroblasts isolated from multicellular spheroids. *Am. J. Physiol.* **273**: C1487-C1595. [16:1]
38. Hielscher AH, Eick AA, Mourant JR, Shen D, Freyer JP, Bigio IJ (1997) Diffuse backscattering Mueller matrix of highly scattering media. *Optics Exp.*, **1**: 441-453. [57: 28]
39. LaRue KE, Bradbury ME, Freyer JP (1998) Regulation of G1 transit by cyclin kinase inhibitors in multicellular spheroid cultures of rat embryo fibroblast cells transformed to different extents. *Cancer Res.* **58**: 1305-1314. [29:6]
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41. Mourant JR, Freyer JP, Hielscher AH, Eick AA, Shen D, Johnson TM (1998) Mechanisms of light scattering from biological cells relevant to noninvasive optical tissue diagnostics. *Appl. Optics* **37**: 3586-3593. [245:113]
42. Mourant JR, Hielscher AH, Freyer JP (1998) Evidence for intrinsic differences in light scattering properties of malignant and nonmalignant cells. *Cancer Cytopath.* **84**: 366-374. [58:23]
43. Mourant JR, Canpolat M, Brocker C, Esponda-Ramos O, Johnson T, Matanock A, Stetter K and Freyer JP (2000) Light scattering from cells: the contribution of the nucleus and the effects of proliferative status. *J. Biomed. Optics*, **5**: 131-137. [89:45]
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46. Mourant JR, Johnson TM, Doddi V, Freyer JP (2002) Angular dependent light scattering from multicellular spheroids, *J. Biomed. Optics* **7**: 93-99. [16:8]
47. Omberg KM, Osborn JC, Zhang SL, Freyer JP, Mourant JR, Schoonover JR (2002) Raman spectroscopy and factor analysis of tumorigenic and non-tumorigenic cells, *Applied Spectros.*, **56**: 813-819. [22: 9]
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49. Kunz-Schughart LA, Freyer JP (2002) Phosphorous metabolites and steady-state energetics of oncogene-transformed fibroblasts during three-dimensional growth. *Am. J. Physiol. Cell. Physiol.* **283**: C1287-C1297. [4:3]
50. Mourant JR, Yamada YR, Carpenter S, Dominique LR, Freyer JP (2003) FTIR spectroscopy demonstrates biochemical differences in mammalian cell cultures at different growth stages. *Biophys. J.* **85**: 1938-1947. [40:31]
51. Mourant JR, Gibson RR, Johnson TM, Carpenter S, Short KW, Yamada YR, Freyer JP (2003) Methods for measuring the infrared spectra of biological cells. *Phys. Med. Biol.* **48**: 243-257. [30:20]

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53. Short W, Carpenter S, Freyer JP, Mourant JR (2005) Raman spectroscopy detects biochemical changes due to the growth stage in mammalian cell cultures. *Biophys. J.* **88**: 4274-4288. [32:31]
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56. Mourant J, Kunapareddy N, Carpenter S, Freyer JP (2005) Vibrational spectroscopy for identification of biochemical changes accompanying carcinogenesis and the formation of necrosis. *Gynecol. Oncol.* **99**: S58-S60. [2:2]
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58. Ramachandran J, Powers TM, Carpenter S, Garcia-Lopez A, Freyer JP, Mourant JR (2007) Light scattering and microarchitectural differences between tumorigenic and non-tumorigenic cell models of tissue. *Optics Express* **15**: 4039-4053. [8:8]
59. Naivar MA, Parson JD, Wilder ME, Habbersett RC, Edwards BS, Sklar L, Nolan JP, Graves SW, Martin JC, Jett JH, Freyer JP (2007) Open, reconfigurable cytometric acquisition system: ORCAS. *Cytometry* **71A**: 915-924. [5:5]
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Book Chapters and Reviews

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2. Sillerud LO, Halliday KR, Freyer JP, Griffey RH, Fenoglio-Preiser, C (1991) ¹³C and ³¹P NMR Studies of Prostate Tumor Metabolism. In: *Developments in Oncology*, Vol. 61, Evelhoch JL, Negendank W, Valeriote FA, Baker LH, eds. (Springer), pp. 120-134.
3. Freyer, JP (1992) Spheroids in Radiobiology Research. In: *Spheroid Culture in Cancer Research*. Bjerkvig R, ed. (CRC Press), pp. 217-275.

Book Chapters and Reviews (continued)

4. Neeman M, Freyer JP, Sillerud LO (1995) Effects of the Imaging Gradients on Diffusion Measurements by MRI. In: *Diffusion and Perfusion Magnetic Resonance Imaging*. LeBihan D, ed. (Raven Press), pp. 73-76.
5. Kunz-Schughart LA, Freyer JP, Hofstaedter F, Ebner R (2004) The use of 3-D cultures for high throughput screening. *J. Biomolec. Screen.* **9**: 273-285. [77:73]

Proceedings Papers

1. Hielscher AH, Eick, AA, Mourant JR, Freyer JP, Bigio IJ (1997) Biomedical diagnostic with diffusely backscattered linearly and circularly polarized light. *Proceed SPIE* **2976**: 298-305.
2. Mourant JR, Hielscher AH, Freyer JP, Eick AA, Shen D, Johnson, TM (1998) Cancer cell diagnostics with wavelength dependent or polarized light scattering. *Proceed. SPIE* **3250**: 26-32.
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4. Mourant JR, Canpolat M, Brocker C, Esponda-Ramos O, Johnson T, Matanock A, Stetter K, Freyer JP (2000) Light scattering from cells: the contribution of the nucleus and the effects of proliferative status. *Proceed. SPIE* **3917**: 33-42.
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6. Short KW, Carpenter S, Freyer JP, Mourant JR (2002) Raman scattering studies of biochemical changes associated with carcinogenesis using tumorigenic and non-tumorigenic cells. *Proceed. IEEE Engineer. Med. Biol.* **3**; 2263-2264.
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9. Mourant JR, Dominguez J, Carpenter S, Powers TM, Guerra A, Short KW, Kunapareddy N, Freyer JP (2006) Determining the gross biochemical composition of cells and tissue with Raman spectroscopy. *Proceed. SPIE* **6093**: T1-T9.
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