

VU Research Portal

Molecular aspects of 5-Fluorouracil and Oxaliplatin activity

Noordhuis, P.

2010

document version

Publisher's PDF, also known as Version of record

[Link to publication in VU Research Portal](#)

citation for published version (APA)

Noordhuis, P. (2010). *Molecular aspects of 5-Fluorouracil and Oxaliplatin activity*. [PhD-Thesis - Research and graduation internal, Vrije Universiteit Amsterdam].

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

E-mail address:

vuresearchportal.ub@vu.nl



Publications

List of publications

Visser, G. W. M., **Noordhuis, P.**, Zwaagstra, O., Herscheid, J. D. M., and Hoekstra, A. A simplified synthesis of 18F-labelled cytosine- and uracilnucleosides. *Int.J.Appl. Radiat.Isot.*, 37: 1074 - 1076, 1986.

Visser, G. W. M., Herder, R. E., **Noordhuis, P.**, Zwaagstra, O., de Kanter, F. J. J., and Herscheid, J. D. M. Reaction of acetylhydropfluorite with pyrimidines. Part 3. Synthesis, stereochemistry and properties of 5-fluor-5,6-dihydropyrimidine-nucleosides. *J.Chem.Soc.Perkin I* 2547 - 2554, 1988.

Ruiz van Haperen, V. W., Veerman, G., **Noordhuis, P.**, Vermorken, J. B., and Peters, G. J. Concentration and time dependent growth inhibition and metabolism in vitro by 2',2'-difluoro-deoxycytidine (gemcitabine). *Adv Exp Med Biol*, 309A: 57-60, 1991.

van der Wilt, C. L., Pinedo, H. M., Smid, K., Cloos, J., **Noordhuis, P.**, and Peters, G. J. Effect of folic acid on fluorouracil activity and expression of thymidylate synthase. *Semin Oncol*, 19: 16-25, 1992.

Peters, G. J., Lankelma, J., Kok, R. M., **Noordhuis, P.**, van Groeningen, C. J., van der Wilt, C. L., Meyer, S., and Pinedo, H. M. Prolonged retention of high concentrations of 5-fluorouracil in human and murine tumors as compared with plasma. *Cancer Chemother Pharmacol*, 31: 269-276, 1993.

Braakhuis, B. J., Jansen, G., **Noordhuis, P.**, Kegel, A., and Peters, G. J. Importance of pharmacodynamics in the in vitro antiproliferative activity of the antifolates methotrexate and 10-ethyl-10-deazaaminopterin against human head and neck squamous cell carcinoma. *Biochem Pharmacol*, 46: 2155-2161, 1993.

Edzes, H. T., Peters, G. J., **Noordhuis, P.**, and Vermorken, J. B. Determination of the antimetabolite Gemcitabine (2',2'-difluoro-2'-deoxycytidine) and of 2',2'-difluoro-2'-deoxyuridine by 19F nuclear magnetic resonance spectroscopy. *Anal Biochem*, 214: 25-30, 1993.

Peters, G. J., Codacci-Pisanelli, G., van der Wilt, C. L., van Laar, J. A., Smid, K., **Noordhuis, P.**, and Pinedo, H. M. Comparison of continuous infusions and bolus injections of 5-fluorouracil with or without leucovorin: implications for inhibition of thymidylate synthase. *Adv Exp Med Biol*, 339: 9-20; discussion 21, 1993.

Peters, G. J., Wets, M., Keepers, Y. P., Oskam, R., van Ark-Otte, J., **Noordhuis, P.**, Smid, K., and Pinedo, H. M. Transformation of mouse fibroblasts with the oncogenes H-ras OR trk is associated with pronounced changes in drug sensitivity and metabolism. *Int J Cancer*, 54: 450-455, 1993.

van der Wilt, C. L., Visser, G. W., Braakhuis, B. J., Wedzinga, R., **Noordhuis, P.**, Smid, K., and Peters, G. J. In vitro antitumour activity of cis- and trans-5-fluoro-5,6-dihydro-6-alkoxy-uracils; effects on thymidylate synthesis. *Br J Cancer*, 68: 702-707, 1993.

Ruiz van Haperen, V. W., Veerman, G., Boven, E., **Noordhuis, P.**, Vermorken, J. B., and Peters, G. J. Schedule dependence of sensitivity to 2',2'-difluorodeoxycytidine (Gemcitabine) in relation to accumulation and retention of its triphosphate in solid tumour cell lines and solid tumours. *Biochem Pharmacol*, 48: 1327-1339, 1994.

Peters, G. J., **Noordhuis, P.**, Komissarov, A., Holwerda, U., Kok, M., Van Laar, J. A., Van der Wilt, C. L., Van Groeningen, V., and Pinedo, H. M. Quantification of 5-fluorouracil incorporation into RNA of human and murine tumors as measured with a sensitive gas chromatography-mass spectrometry assay. *Anal Biochem*, 231: 157-163, 1995.

Codacci-Pisanelli, G., van der Wilt, C. L., Pinedo, H. M., Franchi, F., **Noordhuis, P.**, Braakhuis, B. J., van Laar, J. A., and Peters, G. J. Antitumour activity, toxicity and inhibition of thymidylate synthase of prolonged administration of 5-fluorouracil in mice. *Eur J Cancer*, 31A: 1517-1525, 1995.

- Poorter, R. L., Peters, G. J., Bakker, P. J., Taat, C. W., Biermans-van Leeuwe, D. M., Codacci-Pisanelli, G., **Noordhuis, P.**, Oosting, J., and Veenhof, C. H. Intermittent continuous infusion of 5-fluorouracil and low dose oral leucovorin in patients with gastrointestinal cancer: relationship between plasma concentrations and clinical parameters. *Eur J Cancer*, 31A: 1465-1470, 1995.
- van Laar, J. A., van der Wilt, C. L., Rustum, Y. M., **Noordhuis, P.**, Smid, K., Pinedo, H. M., and Peters, G. J. Therapeutic efficacy of fluoropyrimidines depends on the duration of thymidylate synthase inhibition in the murine colon 26-B carcinoma tumor model. *Clin Cancer Res*, 2: 1327-1333, 1996.
- Noordhuis, P.**, Kazemier, K. M., Kasperrs, G. J., and Peters, G. J. Modulation of metabolism and cytotoxicity of cytosine arabinoside with N-(phosphon)-acetyl-L-aspartate in human leukemic blast cells and cell lines. *Leuk Res*, 20: 127-134, 1996.
- Veerman, G., Ruiz van Haperen, V. W., Vermorcken, J. B., **Noordhuis, P.**, Braakhuis, B. J., Pinedo, H. M., and Peters, G. J. Antitumor activity of prolonged as compared with bolus administration of 2',2'-difluorodeoxycytidine in vivo against murine colon tumors. *Cancer Chemother Pharmacol*, 38: 335-342, 1996.
- Codacci-Pisanelli, G., Kralovanszky, J., van der Wilt, C. L., **Noordhuis, P.**, Colofiore, J. R., Martin, D. S., Franchi, F., and Peters, G. J. Modulation of 5-fluorouracil in mice using uridine diphosphoglucose. *Clin Cancer Res*, 3: 309-315, 1997.
- van der Wilt, C. L., Smid, K., Aherne, G. W., **Noordhuis, P.**, and Peters, G. J. Biochemical mechanisms of interferon modulation of 5-fluorouracil activity in colon cancer cells. *Eur J Cancer*, 33: 471-478, 1997.
- Csapo, Z., Keszler, G., Sasvari-Szekely, M., Smid, K., **Noordhuis, P.**, Peters, G. J., and Staub, M. Similar changes were induced by Cladribine and by gemcitabine, in the deoxyrimidine salvage, during short-term treatments. *Adv Exp Med Biol*, 431: 525-529, 1998.
- Elgie, A. W., Sargent, J. M., Alton, P., Peters, G. J., **Noordhuis, P.**, Williamson, C. J., and Taylor, C. G. Modulation of resistance to ara-C by bryostatin in fresh blast cells from patients with AML. *Leuk Res*, 22: 373-378, 1998.
- Jansen, G., Mauritz, R., Drori, S., Sprecher, H., Kathmann, I., Bunni, M., Priest, D. G., **Noordhuis, P.**, Schornagel, J. H., Pinedo, H. M., Peters, G. J., and Assaraf, Y. G. A structurally altered human reduced folate carrier with increased folic acid transport mediates a novel mechanism of antifolate resistance. *J Biol Chem*, 273: 30189-30198, 1998.
- Van Kuilenburg, A. B., Poorter, R. L., Peters, G. J., Van Gennip, A. H., Van Lenthe, H., Stroomer, A. E., Smid, K., **Noordhuis, P.**, Bakker, P. J., and Veenhof, C. H. No circadian variation of dihydropyrimidine dehydrogenase, uridine phosphorylase, betalanine, and 5-fluorouracil during continuous infusion of 5-fluorouracil. *Adv Exp Med Biol*, 431: 811-816, 1998.
- Hooijberg, J. H., Broxterman, H. J., Kool, M., Assaraf, Y. G., Peters, G. J., **Noordhuis, P.**, Scheper, R. J., Borst, P., Pinedo, H. M., and Jansen, G. Antifolate resistance mediated by the multidrug resistance proteins MRP1 and MRP2. *Cancer Res*, 59: 2532-2535, 1999.
- Jansen, G., Barr, H., Kathmann, I., Bunni, M. A., Priest, D. G., **Noordhuis, P.**, Peters, G. J., and Assaraf, Y. G. Multiple mechanisms of resistance to polyglutamatable and lipophilic antifolates in mammalian cells: role of increased folylpolyglutamylation, expanded folate pools, and intralysosomal drug sequestration. *Mol Pharmacol*, 55: 761-769, 1999.
- Kralovanszky, J., Katona, C., Jeney, A., Pandi, E., **Noordhuis, P.**, Erdelyi-Toth, V., Otvos, L., Kovacs, P., Van der Wilt, C. L., and Peters, G. J. 5-ethyl-2'-deoxyuridine, a modulator of both antitumor action and pharmacokinetics of 5-fluorouracil. *J Cancer Res Clin Oncol*, 125: 675-684, 1999.

- Peters, G. J., Voorn, D. A., Kuiper, C. M., van der Wilt, C. L., **Noordhuis, P.**, Smid, K., Myhren, F., Sandvold, M., and Hendriks, H. R. Cell specific cytotoxicity and structure-activity relationship of lipophilic 1-B-D-arabinofuranosylcytosine (ara-C) derivatives. *Nucleosides Nucleotides*, 18: 877-878, 1999.
- Rots, M. G., Pieters, R., Kaspers, G. J., van Zantwijk, C. H., **Noordhuis, P.**, Mauritz, R., Veerman, A. J., Jansen, G., and Peters, G. J. Differential methotrexate resistance in childhood T- versus common/preB-acute lymphoblastic leukemia can be measured by an in situ thymidylate synthase inhibition assay, but not by the MTT assay. *Blood*, 93: 1067-1074, 1999.
- Rots, M. G., Pieters, R., Peters, G. J., **Noordhuis, P.**, van Zantwijk, C. H., Kaspers, G. J., Hahlen, K., Creutzig, U., Veerman, A. J., and Jansen, G. Role of folylpolyglutamate synthetase and folylpolyglutamate hydrolase in methotrexate accumulation and polyglutamylation in childhood leukemia. *Blood*, 93: 1677-1683, 1999.
- Rots, M. G., Pieters, R., Peters, G. J., van Zantwijk, C. H., Mauritz, R., **Noordhuis, P.**, Willey, J. C., Hahlen, K., Creutzig, U., Janka-Schaub, G., Kaspers, G. J., Veerman, A. J., and Jansen, G. Circumvention of methotrexate resistance in childhood leukemia subtypes by rationally designed antifolates. *Blood*, 94: 3121-3128, 1999.
- van Triest, B., Pinedo, H. M., van Hensbergen, Y., Smid, K., Telleman, F., Schoenmakers, P. S., van der Wilt, C. L., van Laar, J. A., **Noordhuis, P.**, Jansen, G., and Peters, G. J. Thymidylate synthase level as the main predictive parameter for sensitivity to 5-fluorouracil, but not for folate-based thymidylate synthase inhibitors, in 13 nonsectored colon cancer cell lines. *Clin Cancer Res*, 5: 643-654, 1999.
- Bergman, A. M., Giaccone, G., van Moorsel, C. J., Mauritz, R., **Noordhuis, P.**, Pinedo, H. M., and Peters, G. J. Cross-resistance in the 2',2'-difluorodeoxycytidine (gemcitabine)-resistant human ovarian cancer cell line AG6000 to standard and investigational drugs. *Eur J Cancer*, 36: 1974-1983, 2000.
- Rots, M. G., Willey, J. C., Jansen, G., Van Zantwijk, C. H., **Noordhuis, P.**, DeMuth, J. P., Kuiper, E., Veerman, A. J., Pieters, R., and Peters, G. J. mRNA expression levels of methotrexate resistance-related proteins in childhood leukemia as determined by a standardized competitive template-based RT-PCR method. *Leukemia*, 14: 2166-2175, 2000.
- Rots, M. G., Pieters, R., Peters, G. J., **Noordhuis, P.**, Van Zantwijk, C. H., Henze, G., Janka-Schaub, G. E., Veerman, A. J., and Jansen, G. Methotrexate resistance in relapsed childhood acute lymphoblastic leukaemia. *Br J Haematol*, 109: 629-634, 2000.
- van Groeningen, C. J., Peters, G. J., Schornagel, J. H., Gall, H., **Noordhuis, P.**, de Vries, M. J., Turner, S. L., Swart, M. S., Pinedo, H. M., Hanauske, A. R., and Giaccone, G. Phase I clinical and pharmacokinetic study of oral S-1 in patients with advanced solid tumors. *J Clin Oncol*, 18: 2772-2779, 2000.
- Crawford, E. L., Peters, G. J., **Noordhuis, P.**, Rots, M. G., Vondracek, M., Grafstrom, R. C., Lieuallen, K., Lennon, G., Zahorchak, R. J., Georgeson, M. J., Wali, A., Lechner, J. F., Fan, P. S., Kahaleh, M. B., Khuder, S. A., Warner, K. A., Weaver, D. A., and Willey, J. C. Reproducible gene expression measurement among multiple laboratories obtained in a blinded study using standardized RT (StaRT)-PCR. *Mol Diagn*, 6: 217-225, 2001.
- Griffiths, J. R., McIntyre, D. J., Howe, F. A., McSheehy, P. M., Ojugo, A. S. E., Rodrigues, L. M., Wadsworth, P., Price, N. M., Lofts, F., Nicholson, G., Smid, K., **Noordhuis, P.**, Peters, G. J., and Stubbs, M. Issues of normal tissue toxicity in patient and animal studies--effect of carbogen breathing in rats after 5-fluorouracil treatment. *Acta Oncol*, 40: 609-614, 2001.

- Rots, M. G., Pieters, R., Jansen, G., Kaspers, G. J., Van Zantwijk, C. H., **Noordhuis, P.**, Voorn, D. A., Van Wering, E. R., Creutzig, U., Veerman, A. J., and Peters, G. J. A possible role for methotrexate in the treatment of childhood acute myeloid leukaemia, in particular for acute monocytic leukaemia. *Eur J Cancer*, 37: 492-498, 2001.
- Smid, K., Van Moorsel, C. J., **Noordhuis, P.**, Voorn, D. A., and Peters, G. J. Interference of gemcitabine triphosphate with the measurements of deoxynucleotides using an optimized DNA polymerase elongation assay. *Int J Oncol*, 19: 157-162, 2001.
- Codacci-Pisanelli, G., Van der Wilt, C. L., Smid, K., **Noordhuis, P.**, Voorn, D., Pinedo, H. M., and Peters, G. J. High-dose 5-Fluorouracil with uridine-diphosphoglucose rescue increases thymidylate synthase inhibition but not 5-Fluorouracil incorporation into RNA in murine tumors. *Oncology*, 62: 363-370, 2002.
- Groschel, B., Kaufmann, A., Hover, G., Cinatl, J., Doerr, H. W., **Noordhuis, P.**, Loves, W. J., Peters, G. J., and Cinatl, J., Jr. 3'-Azido-2',3'-dideoxythymidine induced deficiency of thymidine kinases 1, 2 and deoxycytidine kinase in H9 T-lymphoid cells. *Biochem Pharmacol*, 64: 239-246, 2002.
- Kuene, B. C., Rosen, L., Smit, E. F., Parson, M. R., Levi, M., Ruijter, R., Huisman, H., Kedde, M. A., **Noordhuis, P.**, van der Vijgh, W. J., Peters, G. J., Cropp, G. F., Scigalla, P., Hoekman, K., Pinedo, H. M., and Giaccone, G. Dose-finding and pharmacokinetic study of cisplatin, gemcitabine, and SU5416 in patients with solid tumors. *J Clin Oncol*, 20: 1657-1667, 2002.
- Mauritz, R., Peters, G. J., Priest, D. G., Assaraf, Y. G., Drori, S., Kathmann, I., **Noordhuis, P.**, Bunni, M. A., Rosowsky, A., Schornagel, J. H., Pinedo, H. M., and Jansen, G. Multiple mechanisms of resistance to methotrexate and novel antifolates in human CCRF-CEM leukemia cells and their implications for folate homeostasis. *Biochem Pharmacol*, 63: 105-115, 2002.
- Ramakers-van Woerden, N. L., Pieters, R., Rots, M. G., van Zantwijk, C. H., **Noordhuis, P.**, Beverloo, H. B., Peters, G. J., van Wering, E. R., Camitta, B. M., Pui, C. H., Relling, M. V., Evans, W. E., and Veerman, A. J. Infants with acute lymphoblastic leukemia: no evidence for high methotrexate resistance. *Leukemia*, 16: 949-951, 2002.
- Peters, G. J., **Noordhuis, P.**, Van Kuilenburg, A. B., Schornagel, J. H., Gall, H., Turner, S. L., Swart, M. S., Voorn, D., Van Gennip, A. H., Wanders, J., Holwerda, U., Smid, K., Giaccone, G., Fumoleau, P., and Van Groeningen, C. J. Pharmacokinetics of S-1, an oral formulation of ftorafur, oxonic acid and 5-chloro-2,4-dihydropyridine (molar ratio 1:0.4:1) in patients with solid tumors. *Cancer Chemother Pharmacol*, 52: 1-12, 2003.
- de Bruin, M., Smid, K., Laan, A. C., **Noordhuis, P.**, Fukushima, M., Hoekman, K., Pinedo, H. M., and Peters, G. J. Rapid disappearance of deoxyribose-1-phosphate in platelet derived endothelial cell growth factor/thymidine phosphorylase overexpressing cells. *Biochem Biophys Res Commun*, 301: 675-679, 2003.
- Stam, R. W., den Boer, M. L., Meijerink, J. P., Ebus, M. E., Peters, G. J., **Noordhuis, P.**, Janka-Schaub, G. E., Armstrong, S. A., Korsmeyer, S. J., and Pieters, R. Differential mRNA expression of Ara-C-metabolizing enzymes explains Ara-C sensitivity in MLL gene-rearranged infant acute lymphoblastic leukemia. *Blood*, 101: 1270-1276, 2003.
- Wang, L. Z., Goh, B. C., Lee, H. S., **Noordhuis, P.**, and Peters, G. J. An expedient assay for determination of gemcitabine and its metabolite in human plasma using isocratic ion-pair reversed-phase high-performance liquid chromatography. *Ther Drug Monit*, 25: 552-557, 2003.
- Noordhuis, P.**, Holwerda, U., Van der Wilt, C. L., Van Groeningen, C. J., Smid, K., Meijer, S., Pinedo, H. M., and Peters, G. J. 5-Fluorouracil incorporation into RNA and DNA in relation to thymidylate synthase inhibition of human colorectal cancers. *Ann Oncol*, 15: 1025-1032, 2004.

Noordhuis, P., Holwerda, U., Van Laar, J. A., Van der Wilt, C. L., and Peters, G. J. A non-radioactive sensitive assay to measure 5-fluorouracil incorporation into DNA of solid tumors. *Nucleosides Nucleotides Nucleic Acids*, 23: 1481-1484, 2004.

Bergman, A. M., Kuiper, C. M., **Noordhuis, P.**, Smid, K., Voorn, D. A., Comijn, E. M., Myhren, F., Sandvold, M. L., Hendriks, H. R., Fodstad, O., Breistol, K., and Peters, G. J. Antiproliferative activity and mechanism of action of fatty acid derivatives of gemcitabine in leukemia and solid tumor cell lines and in human xenografts. *Nucleosides Nucleotides Nucleic Acids*, 23: 1329-1333, 2004.

Mauritz, R., Schwabe, W., Haeusler, P., **Noordhuis, P.**, Smid, K., McLeod, H. L., Behnke, D., van Groeningen, C. J., and Peters, G. J. Comparison of mRNA expression levels determined with TaqMan and competitive template RT-PCR. *Nucleosides Nucleotides Nucleic Acids*, 23: 1471-1474, 2004.

Ossenkoppele, G. J., Graveland, W. J., Sonneveld, P., Daenen, S. M., Biesma, D. H., Verdonck, L. F., Schaafsma, M. R., Westveer, P. H., Peters, G. J., **Noordhuis, P.**, Muus, P., Selleslag, D., van der Holt, B., Delforge, M., Lowenberg, B., and Verhoef, G. E. The value of fludarabine in addition to ARA-C and G-CSF in the treatment of patients with high-risk myelodysplastic syndromes and AML in elderly patients. *Blood*, 103: 2908-2913, 2004.

Peters, G. J., **Noordhuis, P.**, Van Groeningen, C. J., Giaccone, G., Holwerda, U., Voorn, D., Schrijvers, A., Schornagel, J. H., Beijnen, J. H., Fumoleau, P., and Schellens, J. H. The effect of food on the pharmacokinetics of S-1 after single oral administration to patients with solid tumors. *Clin Cancer Res*, 10: 4072-4076, 2004.

Dahle, J., **Noordhuis, P.**, Stokke, T., Svendsrud, D. H., and Kvam, E. Multiplex polymerase chain reaction analysis of UV-A- and UV-B-induced delayed and early mutations in V79 Chinese hamster cells. *Photochem Photobiol*, 81: 114-119, 2005.

Peters, G. J., Van Moorsel, C. J., Lakerveld, B., Smid, K., **Noordhuis, P.**, Comijn, E. C., Weaver, D., Willey, J. C., Voorn, D., Van der Vijgh, W. J., and Pinedo, H. M. Effects of gemcitabine on cis-platinum-DNA adduct formation and repair in a panel of gemcitabine and cisplatin-sensitive or -resistant human ovarian cancer cell lines. *Int J Oncol*, 28: 237-244, 2006.

Smorenburg, C. H., Peters, G. J., van Groeningen, C. J., **Noordhuis, P.**, Smid, K., van Riel, A. M., Dercksen, W., Pinedo, H. M., and Giaccone, G. Phase II study of tailored chemotherapy for advanced colorectal cancer with either 5-fluorouracil and leucovorin or oxaliplatin and irinotecan based on the expression of thymidylate synthase and dihydropyrimidine dehydrogenase. *Ann Oncol*, 17: 35-42, 2006.

Temmink, O. H., de Bruin, M., Laan, A. C., Turksma, A. W., Cricca, S., Masterson, A. J., **Noordhuis, P.**, and Peters, G. J. The role of thymidine phosphorylase and uridine phosphorylase in (fluoro)pyrimidine metabolism in peripheral blood mononuclear cells. *Int J Biochem Cell Biol*, 38: 1759-1765, 2006.

Muller, C. R., Paulsen, E. B., **Noordhuis, P.**, Pedeutour, F., Saeter, G., and Myklebost, O. Potential for treatment of liposarcomas with the MDM2 antagonist Nutlin-3A. *Int J Cancer*, 121: 199-205, 2007.

Peters, G. J., Clavel, M., **Noordhuis, P.**, Geyssen, G. J., Laan, A. C., Guastalla, J., Edzes, H. T., and Vermorken, J. B. Clinical phase I and pharmacology study of gemcitabine (2', 2'-difluorodeoxycytidine) administered in a two-weekly schedule. *J Chemother*, 19: 212-221, 2007.

Noordhuis, P., Laan, A. C., van de Born, K., Losekoot, N., Kathmann, I., and Peters, G. J. Oxaliplatin activity in selected and unselected human ovarian and colorectal cancer cell lines. *Biochem Pharmacol*, 76: 53-61, 2008.

Codacci-Pisanelli, G., **Noordhuis, P.**, van der Wilt, C. L., and Peters, G. J. Selective protection by uridine of growth inhibition by 5-fluorouracil (5FU) mediated by 5FU incorporation into RNA, but not the thymidylate synthase mediated growth inhibition by 5FU-leucovorin. *Nucleosides Nucleotides Nucleic Acids*, 27: 733-739, 2008.

Mauritz, R., Peters, G. J., Kathmann, I., Teshale, H., **Noordhuis, P.**, Comijn, E. M., Pinedo, H. M., and Jansen, G. Dynamics of antifolate transport via the reduced folate carrier and the membrane folate receptor in murine leukaemia cells in vitro and in vivo. *Cancer Chemother Pharmacol*, 62: 937-948, 2008.

Varghese, M., Olstorn, H., Sandberg, C., Vik-Mo, E. O., **Noordhuis, P.**, Nister, M., Berg-Johnsen, J., Moe, M. C., and Langmoen, I. A. A comparison between stem cells from the adult human brain and from brain tumors. *Neurosurgery*, 63: 1022-1033; discussion 1033-1024, 2008.

Bergman, A. M., Adema, A. D., Balzarini, J., Bruheim, S., Fichtner, I., **Noordhuis, P.**, Fodstad, O., Myhren, F., Sandvold, M. L., Hendriks, H. R., and Peters, G. J. Anti-proliferative activity, mechanism of action and oral antitumor activity of CP-4126, a fatty acid derivative of gemcitabine, in in vitro and in vivo tumor models. *Invest New Drugs*, 2010.

