

Final Progress Report for Research Projects Funded by Health Research Grants

Instructions: Please complete all of the items as instructed. Do not delete instructions. Do not leave any items blank; responses must be provided for all items. If your response to an item is “None”, please specify “None” as your response. “Not applicable” is not an acceptable response for any of the items. There is no limit to the length of your response to any question. Responses should be single-spaced, no smaller than 12-point type. The report **must be completed using MS Word**. Submitted reports must be Word documents; they should not be converted to pdf format. Questions? Contact Health Research Program staff at 717-783-2548.

1. **Grantee Institution:** The Trustees of the University of Pennsylvania
2. **Reporting Period (start and end date of grant award period):** 1/1/2010-12/31/2013
3. **Grant Contact Person (First Name, M.I., Last Name, Degrees):** Gearline R. Robinson-Hall, BSF
4. **Grant Contact Person’s Telephone Number:** 215-746-6821
5. **Grant SAP Number:** 4100050912
6. **Project Number and Title of Research Project:** 7 - Phase II Trial of Cyclin-Dependent Kinase Inhibitor PD 0332991 in Patients with Cancer
7. **Start and End Date of Research Project:** 5/1/2010 – 12/31/2013
8. **Name of Principal Investigator for the Research Project:** Peter O’Dwyer, MD
9. **Research Project Expenses.**

9(A) Please provide the total amount of health research grant funds spent on this project for the entire duration of the grant, including indirect costs and any interest earned that was spent:

\$ \$219,252

9(B) Provide the last names (include first initial if multiple individuals with the same last name are listed) of **all** persons who worked on this research project and were supported with health research funds. Include position titles (Principal Investigator, Graduate Assistant, Post-doctoral Fellow, etc.), percent of effort on project and total health research funds expended for the position. For multiple year projects, if percent of effort varied from year to year, report in the % of Effort column the effort by year 1, 2, 3, etc. of the project (x% Yr 1; z% Yr 2-3).

Last Name, First Name	Position Title	% of Effort on Project	Cost
O'Dwyer, Peter	PI	18% Yr4	\$26,508.00
Gallagher, Maryann	Research Nurse	24% Yr4	\$12,573.87
Burnite, Marie	Clinical Res. Coordinator	23% Yr4	\$ 8,053.18

9(C) Provide the names of **all** persons who worked on this research project, but who *were not* supported with health research funds. Include position titles (Research Assistant, Administrative Assistant, etc.) and percent of effort on project. For multiple year projects, if percent of effort varied from year to year, report in the % of Effort column the effort by year 1, 2, 3, etc. of the project (x% Yr 1; z% Yr 2-3).

Last Name, First Name	Position Title	% of Effort on Project
Kramer, Amy	Admin Director, Dev Thera Program	5%
Zhang, Paul	Professor, Path and Lab Medicine	5%
Lal, Priti	Assoc Professor, Path and Lab Medicine	5%
Vaughn, David	Director, Clinical Research Unit	5%
DeMichele, Angela	Alan and Jill Miller Assoc Prof in Breast Cancer Excellence	5%

9(D) Provide a list of **all** scientific equipment purchased as part of this research grant, a short description of the value (benefit) derived by the institution from this equipment, and the cost of the equipment.

Type of Scientific Equipment	Value Derived	Cost
None		

10. Co-funding of Research Project during Health Research Grant Award Period. Did this research project receive funding from any other source during the project period when it was supported by the health research grant?

Yes No

If yes, please indicate the source and amount of other funds:

Penn-Pfizer Agreement: Support for clinical expenses of the studies in the amount of \$734,743.31 over the entire project period.

11. Leveraging of Additional Funds

11(A) As a result of the health research funds provided for this research project, were you able to apply for and/or obtain funding from other sources to continue or expand the

research?

Yes x No _____

If yes, please list the applications submitted (column A), the funding agency (National Institutes of Health—NIH, or other source in column B), the month and year when the application was submitted (column C), and the amount of funds requested (column D). If you have received a notice that the grant will be funded, please indicate the amount of funds to be awarded (column E). If the grant was not funded, insert “not funded” in column E.

Do not include funding from your own institution or from CURE (tobacco settlement funds). Do not include grants submitted prior to the start date of the grant as shown in Question 2. If you list grants submitted within 1-6 months of the start date of this grant, add a statement below the table indicating how the data/results from this project were used to secure that grant.

A. Title of research project on grant application	B. Funding agency (check those that apply)	C. Month and Year Submitted	D. Amount of funds requested:	E. Amount of funds to be awarded:
Pharmacodynamic analysis of patients treated on palbociclib	<input type="checkbox"/> NIH <input type="checkbox"/> Other federal (specify: _____) <input checked="" type="checkbox"/> Nonfederal source (specify: Pfizer)	12/2013	\$250K	\$

11(B) Are you planning to apply for additional funding in the future to continue or expand the research?

Yes x No _____

If yes, please describe your plans:

1. Optimizing patient treatment. This will be the second stage of work that will be started by the PD analysis we will performed with Pfizer as indicated above. The overall goal is to understand how best to individualize dosing, to minimize toxicity, and to maximize the opportunity for response. The steps are: (i) expand the PD model we developed in Phase I (and published two abstracts on); (ii) use that model to define dose modification strategies for patients treated with this drug (we have submitted an abstract to that end to a cancer meeting this year); (iii) establish a role for the intervention in larger trials going forward. The last will require funding from either the company or from a funding agency.
2. Identifying patients who will or will not respond to treatment. In the colon trial, for which the imaging was supported by the State grant, we showed that after administration of the drug, inhibition of the cell cycle was accomplished, but the tumors did not shrink. This showed dissociation between the PD effects of the drug, and the propensity of the tumor cell

to have its growth inhibited. Since the PD effects were reliably reproduced at different drug concentrations (as evidenced by marrow suppression), resistance or sensitivity must be an inherent characteristic of the tumor. Trials to define the relationship between genomic characteristics of the tumor and responsiveness to therapy are crucial to identify which patients will benefit from this treatment.

12. Future of Research Project. What are the future plans for this research project?

As outlined above. We also plan to investigate the effects of this drug in specific subtypes of colon and esophageal malignancies, and additional categories of breast cancer.

13. New Investigator Training and Development. Did students participate in project supported internships or graduate or post-graduate training for at least one semester or one summer?

Yes No

If yes, how many students? Please specify in the tables below:

	Undergraduate	Masters	Pre-doc	Post-doc
Male				1
Female				
Unknown				
Total				1

	Undergraduate	Masters	Pre-doc	Post-doc
Hispanic				
Non-Hispanic				
Unknown				1
Total				1

	Undergraduate	Masters	Pre-doc	Post-doc
White				1
Black				
Asian				
Other				
Unknown				
Total				1

14. Recruitment of Out-of-State Researchers. Did you bring researchers into Pennsylvania to carry out this research project?

Yes No

If yes, please list the name and degree of each researcher and his/her previous affiliation:

15. Impact on Research Capacity and Quality. Did the health research project enhance the quality and/or capacity of research at your institution?

Yes No

If yes, describe how improvements in infrastructure, the addition of new investigators, and other resources have led to more and better research.

Application of novel radiological techniques to clinical trials is a resource-intensive activity, and multiple intra-institutional individuals and committees were needed to come together to make it successful. Establishing this structure led to increased application of radiological studies in the clinic, and to a Quantitative Imaging Network application currently under consideration.

16. Collaboration, business and community involvement.

16(A) Did the health research funds lead to collaboration with research partners outside of your institution (e.g., entire university, entire hospital system)?

Yes No

If yes, please describe the collaborations:

Pfizer was a partner in the initial funding of a clinical trial, however, the depth of the scientific involvement was greatly enhanced by the health research funding, and in addition to the downstream research that will be conducted in Pennsylvania, co-investigators from here will lead important national trials that will lead to advances in the treatment of breast cancer.

Furthermore, the trials will be expanded to other Pennsylvania institutions, and the administration of the research will occur under the purview of a not-for-profit based in Pennsylvania, PrECOG, LLC.

16(B) Did the research project result in commercial development of any research products?

Yes No

If yes, please describe commercial development activities that resulted from the research project:

As noted, the trials in breast cancer will be expanded to other Pennsylvania institutions,

and the administration of the research will occur under the purview of a not-for-profit based in Pennsylvania, PrECOG, LLC (headquarters in 1818 Market Street, Philadelphia, PA). Compendium recognition of the activity of palbociclib in germ cell tumors will be an additional commercial benefit.

16(C) Did the research lead to new involvement with the community?

Yes _____ No x__

If yes, please describe involvement with community groups that resulted from the research project:

17. Progress in Achieving Research Goals, Objectives and Aims.

List the project goals, objectives and specific aims (as contained in the grant agreement). Summarize the progress made in achieving these goals, objectives and aims for the period that the project was funded (i.e., from project start date through end date). Indicate whether or not each goal/objective/aim was achieved; if something was not achieved, note the reasons why. Describe the methods used. If changes were made to the research goals/objectives/aims, methods, design or timeline since the original grant application was submitted, please describe the changes. Provide detailed results of the project. Include evidence of the data that was generated and analyzed, and provide tables, graphs, and figures of the data. List published abstracts, poster presentations and scientific meeting presentations at the end of the summary of progress; peer-reviewed publications should be listed under item 20.

This response should be a DETAILED report of the methods and findings. It is not sufficient to state that the work was completed. Insufficient information may result in an unfavorable performance review, which may jeopardize future funding. If research findings are pending publication you must still include enough detail for the expert peer reviewers to evaluate the progress during the course of the project.

Health research grants funded under the Tobacco Settlement Act will be evaluated via a performance review by an expert panel of researchers and clinicians who will assess project work using this Final Progress Report, all project Annual Reports and the project's strategic plan. After the final performance review of each project is complete, approximately 12-16 months after the end of the grant, this Final Progress Report, as well as the Final Performance Review Report containing the comments of the expert review panel, and the grantee's written response to the Final Performance Review Report, will be posted on the CURE Web site.

There is no limit to the length of your response. Responses must be single-spaced below, no smaller than 12-point type. If you cut and paste text from a publication, be sure symbols print properly, e.g., the Greek symbol for alpha (α) and beta (β) should not print as boxes (\square) and include the appropriate citation(s). DO NOT DELETE THESE INSTRUCTIONS.

A targeted approach to cancer treatment was proposed. Most tumors have abnormalities in the control of the cell cycle, permitting unregulated proliferation of cancer cells. We first established the safety of an oral agent targeted to the cell cycle proteins cdk4 and cdk6, and characterized its pharmacology. This compound is now called palbociclib. In this proposal we selected patients whose tumors had molecular features that suggested they might respond to a cell cycle inhibitor, and in four different diseases perform clinical, biological, and imaging studies to identify the characteristics of responders, to better perform future trials in populations who may benefit.

Our broad research objective is to bring to the clinic, and evaluate critically, interventions directed to inhibition of the cell cycle within tumor cells. We have performed pilot studies with the reagent we will now evaluate in such a way as to first, ascertain that it is doing what we expect; and second, to identify the characteristics of responding patients, in order to better direct successful therapy. Our specific aim was initially expressed as:

1. To investigate cell cycle inhibition by PD 0332991 in patients with Rb-positive melanoma, colon, breast and germ-cell tumors, and its association with clinical benefit.

As we moved along with the project, the therapeutic groups were finally itemized as:

- 1) Metastatic breast cancer
- 2) Metastatic colorectal cancer that harbors the Kras mutation
- 3) Gastric Cancer
- 4) Cisplatin-refractory, unresectable germ cell tumors
- 5) CCND1-amplified tumors of various histologies.

These categories evolved from a consideration of the disease types that for biological reasons might be most susceptible, and incorporated a category defined only by molecular markers.

The secondary objectives of this study were summarized as:

- To assess the pharmacodynamic effects of PD 0332991 on tumor and non-tumor tissue
- To investigate the relationship between selected biomarkers, PK and/or efficacy and safety outcomes.
- To estimate the population pharmacokinetics for PD 0332991 and to correlate PK with efficacy outcomes.

Methods:

This was a Phase II clinical trial, open-label, non-randomized, with the goal of assessing the benefit from palbociclib treatment. Eligibility criteria for the study were as defined in the clinical protocol. Additional endpoints included pharmacokinetics (in progress), molecular

characterization of cell cycle pathways aberrations (as detailed below), and for certain sub-groups, novel imaging approaches to define drug effects in the tumor.

Summary of Research Completed

A total of 114 patients have been enrolled on the treatment portion of the study. The breakdown of diseases and demographics is as shown in the Table.

Patient Population

The largest accrual has been in breast cancer, and this trial, along with additional trials conducted by Pfizer, has demonstrated that indeed this is an active drug in breast cancer. From this, a large Phase III trial is being designed, and will be co-led by Dr Angela DeMichele, who has been supported through this program. These studies will have provided a new option for breast cancer patients, and our ongoing studies are expanding this therapeutic potential by exploring combinations with commonly used chemotherapeutic drugs.

We have also defined the activity of the drug in refractory germ cell tumors, and the endpoints we set out for activity in this disease have been met. Based on our work, this drug will receive recognition in compendia as a standard treatment for this rare disease.

As the work and the science developed, we were able to open this trial to new populations, including gastroesophageal cancer, and to a molecularly-defined group with tumor genomic characteristics indicating pathway activation. We have received referral to these subgroups from around the State.

Demographic Analysis

Of the total 114 patients, there were 47 males and 67 females. The racial/ethnic breakdown of the patients was as follows:

African American: 8
Asian: 2
Unknown: 2
Hispanic: 3
Caucasian: 99

Disease	<u>Accrual</u>			
	Screened	RB+	CCND1+	Entered
Breast	128	111	25	52
Colon, Kras mutated	39	35		18
Germ Cell	61	60		30
Gastric/Esophageal	30	28		11
CCND1 amplified*	132		35	21(16 BR, 4GE)
Thymic	1	1	1	1
Renal Cell	1	1	1	1

*Note that all breast and gastroesophageal patients were tested for CCND1 amplification

Toxicity

The expected profile of neutropenia, thrombopenia, and fatigue is observed without any unexpected events. This is a remarkably well-tolerated drug.

We have developed, and are presenting next month, an algorithm for patient treatment that is a first step to a safer and more effective dosing strategy.

Translational Research

We have performed detailed pathological analyses of the tissues of treated patients. The results, still preliminary, suggest that the degree of RB staining and its intracellular location may determine responsiveness to therapy. We are analyzing further markers of sensitivity in breast cancer, and these will be the topic of a separate publication.

We performed a critical proof-of-principle trial in colorectal cancer showing through FLT-PET imaging (a novel approach to analysis of cell cycle inhibitors) that the drug accomplished in the tumor cells what it was designed to do, and that the magnitude of the effect was proportional to that in bone marrow.

Additional accomplishments:

1. A trial in breast cancer combining 991 with taxol, under the direction of Dr. DeMichele, is accruing, and will be described in an abstract.
2. Discussions regarding additional niche indications in breast cancer are in progress.
3. Discussion regarding PK modeling and development of a dosing algorithm for this drug proceeding with meetings q2week. We have agreement to run the PK with a view to PD modeling. We have high confidence that with the agreement to move forward with this, a PD-guided dosing strategy will be feasible, and will increase the safety/efficacy profile of this active drug.

In summary, we have defined the activity of PD 0332991 in the treatment of breast cancer and germ-cell tumors, and additional study will clarify results in other tumors. We have gone on to develop combination regimens with taxol in breast cancer, and will help to lead a large national trial of palbociclib in adjuvant therapy, all as a result of this work. Our analysis of pharmacodynamics will provide future patients with more individualized therapy options. Our molecular studies in identifying susceptible tumors will target the drug to patients most likely to benefit.

18. Extent of Clinical Activities Initiated and Completed. Items 18(A) and 18(B) should be completed for all research projects. If the project was restricted to secondary analysis of clinical data or data analysis of clinical research, then responses to 18(A) and 18(B) should be “No.”

18(A) Did you initiate a study that involved the testing of treatment, prevention or diagnostic procedures on human subjects?

Yes
 No

18(B) Did you complete a study that involved the testing of treatment, prevention or diagnostic procedures on human subjects?

Yes
 No

If “Yes” to either 18(A) or 18(B), items 18(C) – (F) must also be completed. (Do NOT complete 18(C-F) if 18(A) and 18(B) are both “No.”)

18(C) How many hospital and health care professionals were involved in the research project?

~ 20 Number of hospital and health care professionals involved in the research project

18(D) How many subjects were included in the study compared to targeted goals?

80 Number of subjects originally targeted to be included in the study
114 Number of subjects enrolled in the study

Note: Studies that fall dramatically short on recruitment are encouraged to provide the details of their recruitment efforts in Item 17, Progress in Achieving Research Goals, Objectives and Aims. For example, the number of eligible subjects approached, the number that refused to participate and the reasons for refusal. Without this information it is difficult to discern whether eligibility criteria were too restrictive or the study simply did not appeal to subjects.

18(E) How many subjects were enrolled in the study by gender, ethnicity and race?

Gender:

47 Males
67 Females
 Unknown

Ethnicity:

 3 Latinos or Hispanics
109 Not Latinos or Hispanics
 2 Unknown

Race:

 American Indian or Alaska Native
 2 Asian
 8 Blacks or African American
 Native Hawaiian or Other Pacific Islander
99 White
 Other, specify: _____
 5 Unknown

18(F) Where was the research study conducted? (List the county where the research study was conducted. If the treatment, prevention and diagnostic tests were offered in more than one county, list all of the counties where the research study was conducted.)

Philadelphia

19. Human Embryonic Stem Cell Research. Item 19(A) should be completed for all research projects. If the research project involved human embryonic stem cells, items 19(B) and 19(C) must also be completed.

19(A) Did this project involve, in any capacity, human embryonic stem cells?

 Yes
 x No

19(B) Were these stem cell lines NIH-approved lines that were derived outside of Pennsylvania?

_____ Yes

_____ No

19(C) Please describe how this project involved human embryonic stem cells:

20. Articles Submitted to Peer-Reviewed Publications.

20(A) Identify all publications that resulted from the research performed during the funding period and that have been submitted to peer-reviewed publications. Do not list journal abstracts or presentations at professional meetings; abstract and meeting presentations should be listed at the end of item 17. **Include only those publications that acknowledge the Pennsylvania Department of Health as a funding source** (as required in the grant agreement). List the title of the journal article, the authors, the name of the peer-reviewed publication, the month and year when it was submitted, and the status of publication (submitted for publication, accepted for publication or published.). Submit an electronic copy of each publication or paper submitted for publication, listed in the table, in a PDF version 5.0.5 (or greater) format, 1,200 dpi. Filenames for each publication should include the number of the research project, the last name of the PI, and an abbreviated title of the publication. For example, if you submit two publications for Smith (PI for Project 01), one publication for Zhang (PI for Project 03), and one publication for Bates (PI for Project 04), the filenames would be:

Project 01 – Smith – Three cases of isolated

Project 01 – Smith – Investigation of NEB1 deletions

Project 03 – Zhang – Molecular profiling of aromatase

Project 04 – Bates – Neonatal intensive care

If the publication is not available electronically, provide 5 paper copies of the publication.

Note: The grant agreement requires that recipients acknowledge the Pennsylvania Department of Health funding in all publications. Please ensure that all publications listed acknowledge the Department of Health funding. If a publication does not acknowledge the funding from the Commonwealth, do not list the publication.

Title of Journal Article:	Authors:	Name of Peer-reviewed Publication:	Month and Year Submitted:	Publication Status (check appropriate box below):
1. None				<input type="checkbox"/> Submitted <input type="checkbox"/> Accepted <input type="checkbox"/> Published

20(B) Based on this project, are you planning to submit articles to peer-reviewed publications in the future?

Yes No _____

If yes, please describe your plans:

We have in development at least 8 manuscripts most of which will be submitted in the next 6 months.

21. Changes in Outcome, Impact and Effectiveness Attributable to the Research Project.

Describe the outcome, impact, and effectiveness of the research project by summarizing its impact on the incidence of disease, death from disease, stage of disease at time of diagnosis, or other relevant measures of outcome, impact or effectiveness of the research project. If there were no changes, insert “None”; do not use “Not applicable.” Responses must be single-spaced below, and no smaller than 12-point type. **DO NOT DELETE THESE INSTRUCTIONS.** There is no limit to the length of your response.

Development of a new drug for the treatment of cancer.

22. Major Discoveries, New Drugs, and New Approaches for Prevention Diagnosis and Treatment.

Describe major discoveries, new drugs, and new approaches for prevention, diagnosis and treatment that are attributable to the completed research project. If there were no major discoveries, drugs or approaches, insert “None”; do not use “Not applicable.” Responses must be single-spaced below, and no smaller than 12-point type. **DO NOT DELETE THESE INSTRUCTIONS.** There is no limit to the length of your response.

The new therapy will at a minimum, improve outcomes in breast cancer and germ cell tumors, but will likely go far beyond these two.

23. Inventions, Patents and Commercial Development Opportunities.

23(A) Were any inventions, which may be patentable or otherwise protectable under Title 35 of the United States Code, conceived or first actually reduced to practice in the performance of work under this health research grant? Yes _____ No

If “Yes” to 23(A), complete items a – g below for each invention. (Do NOT complete items a - g if 23(A) is “No.”)

- a. Title of Invention:
- b. Name of Inventor(s):
- c. Technical Description of Invention (describe nature, purpose, operation and physical, chemical, biological or electrical characteristics of the invention):

- d. Was a patent filed for the invention conceived or first actually reduced to practice in the performance of work under this health research grant?
Yes_____ No____

If yes, indicate date patent was filed:

- e. Was a patent issued for the invention conceived or first actually reduced to practice in the performance of work under this health research grant?
Yes_____ No____

If yes, indicate number of patent, title and date issued:

Patent number:

Title of patent:

Date issued:

- f. Were any licenses granted for the patent obtained as a result of work performed under this health research grant? Yes_____ No____

If yes, how many licenses were granted?_____

- g. Were any commercial development activities taken to develop the invention into a commercial product or service for manufacture or sale? Yes__ No____

If yes, describe the commercial development activities:

23(B) Based on the results of this project, are you planning to file for any licenses or patents, or undertake any commercial development opportunities in the future?

Yes_____ No__x_____

If yes, please describe your plans:

24. Key Investigator Qualifications. Briefly describe the education, research interests and experience and professional commitments of the Principal Investigator and all other key investigators. In place of narrative you may insert the NIH biosketch form here; however, please limit each biosketch to 1-2 pages.

Peter J. O'Dwyer, M.D.

Professor of Medicine at the Hospital of the University of Pennsylvania and the Presbyterian Medical Center of Philadelphia

Department: Medicine

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Education:

M.D.
University of Dublin, Trinity College Dublin, Ireland, 1975.

Post-Graduate Training:

Rotating Internship, Internal Medicine and Surgery , Sir Patrick Dun's Hospital, Dublin, Ireland, 1975-1976.
Senior House Officer, Department of Renal Medicine and Hematology, Hammersmith Hospital, London, England, 1976-1977.
Resident, Pediatrics, Waterbury Hospital, Waterbury, Connecticut, 1977-1979.
Senior House Officer, Department of Rheumatology, Hammersmith Hospital, London, England, 1977.
Resident, Internal Medicine, Greater Baltimore Medical Center, Baltimore, Maryland, 1979-1981.
Fellow, Oncology, Baltimore Cancer Research Center, University of Maryland Hospital, Baltimore, Maryland, 1981-1982.

Certifications:

American Boards of Internal Medicine
Fellow, American College of Physicians
American Boards of Pediatrics
Subspecialty Boards in Medical Oncology

Selected Publications

Shirao K, Hoff PM, Ohtsu A, Loehrer PJ, Hyodo I, Wadler S, Wadleigh RG, O'Dwyer PJ, Muro K, Yamada Y, Boku N, Nagashima F, Abbruzzese JL: *Comparison between the efficacy, toxicity, and pharmacokinetics of a uracil/tegafur plus oral leucovorin regimen in Japanese and American patients with advanced colorectal cancer: joint USA and Japan study of UFT/LV.* 2003 Notes: Manuscript submitted.

Flaherty KT, Stevenson JP, Hahn SM, Redlinger M, O'Dwyer PJ: *Dose escalation and safety study of gemcitabine, carboplatin, and paclitaxel in patients with advanced malignancy*. Cancer Chemother Pharmacol 2003 Notes: In Press.

Giantonio BJ, Derry C, McAleer C, McPhillips JJ, O'Dwyer PJ: *Phase I and pharmacokinetic study of the cytotoxic ether lipid ilmofosine administered by weekly 2-hour infusion in patients with advanced solid tumors*. 2003 Notes: In Press.

Yao KS, O'Dwyer PJ: *Role of the AP-1 element in mediating transcriptional induction of DT-diaphorase gene expression by oltipraz: a target for chemoprevention*. Biochem Pharmacol 2003 Notes: In Press.

Schaner ME, Ross DT, Ciaravino G, Sorlie T, Troyanskaya O, Diehn M, Wang YC, Duran GE, Sikic TL, Caldeira S, Skomedal H, Tu I-P, Hernandez-Boussard T, Johnson SW, O'Dwyer PJ, Fero M, Kristensen GB, Borresen-Dale A-L, Hastie T, Tibshirani R, van de Rijn M, Teng NN, Longacre TA, Botstein D, Brown PO, Sikic BI: *Gene expression patterns in epithelial ovarian carcinomas*. 2003 Notes: Manuscript submitted.

Flaherty KT, O'Dwyer PJ: *Phase II trials in oncology*. Anticancer Drug Development Guide. Teicher BA (eds.). 2003 Notes: In Press.

Vasilevskaya I, O'Dwyer PJ: *Role of Jun and Jun kinase (JNK) in resistance of cancer cells to therapy*. Drug Resistance Updates 2003 Notes: In Press.

O'Dwyer PJ, Johnson SW: *Current status of oxaliplatin in colorectal cancer*. Semin Oncol 30(3 Supp 6): 78-87, 2003.

Bilenker JH, Stevenson JP, Flaherty KT, Algazy K, McLaughlin K, Haller DG, Giantonio BJ, Garcia-Vargas JE, O'Dwyer PJ: *Phase I trial of the antifolate ZD9331 in combination with cisplatin in patients with refractory solid malignancies*. 2003 Notes: Manuscript submitted.

Veronese ML, Stevenson JP, Sun W, Redlinger M, Algazy K, Giantonio BJ, Hahn S, Vaughn D, Haller DG, O'Dwyer PJ: *Phase I trial of UFT/leucovorin and irinotecan in patients with advanced cancer*. 2003 Notes: Manuscript submitted.