

**\*\*\*THIS IS THE VERSION SENT BY THE PI. YOU NEED TO ENSURE ALL THE INFORMATION IS CORRECT AND COMPLETE\*\*\***

**BUDGET JUSTIFICATION - UCLA**

**Key Personnel**

**Jane Bruin, M.D., Principal Investigator, 3.0 calendar months Years 1-5**

Dr. Bruin is Professor in the Department of Medicine at UCLA and is an expert in signal transduction, metabolism and imaging in cancer. Dr. Bruin will be responsible for the overall administration and direction of the pre-clinical goals of the study proposed in Aim 2. She will guide the design, execution and analysis of all pre-clinical PET/CT guided studies testing combinations of targeted metabolic and validating novel biomarkers in mice.

**Brenda Seuss, M.D., Ph.D., Investigator, 3.00 calendar months Years 1-5**

Dr. Seuss is an Associate Professor in the Department of Medicine with expertise in LKB1/AMPK signaling, biochemistry, cell biology and mouse models of cancer who will be responsible for performing the *in vitro* cell line work and *in vivo* work in GEMMs and PDXs proposed in Aim 1. This includes: overseeing the breeding and genotyping of KP<sub>luc</sub>, and KL<sub>luc</sub>, mice, tumor induction, lung tumor implantation of PDXs, dosing of mice, and micro PET-CT imaging, IHC and biochemical analysis of tumors samples, LC/MS based metabolomic experiments as well as executing the analysis of all preclinical studies. She will be responsible for performing all of the cell culture experiments, protein analysis of molecular signaling pathways, and analysis of oxidative metabolism following treatment with OXPHOS inhibitor and/or mitophagy inhibitors in both *in vitro* and *in vivo* models of lung cancer. Dr. Seuss will maintain tumor cell lines and perform experiments, as well as analyze and prepare data for publication in peer reviewed journal(s).

**Donald Smith, Ph.D., Collaborator, 0.6 Calendar Months**

Dr. Smith will coordinate and assist in the characterization of chylomicrons from the mesenteric lymph, and the experiments using ex vivo jejunum incubations. He will be assisted by Ms. Doe and the TBN SRA.

**Other Personnel**

**Jane Doe, Graduate Student Researcher, 40% Effort.**

Ms. Doe will participate in the experimental execution of specific aims 1 and 2. She will be assisted by staff research associate. Ms. Doe will work closely with the PI and other Co-Investigators in the design of experiments, analysis of data and reporting of progress.

**TBN, Staff Research Associate (effort = 12 Calendar Months).**

The TBN SRA will be responsible for the management of the mouse colonies including breeding, genotyping and generating mice required for the proposed experiment. The SRA will assist the post-doctoral fellow, Jane Doe, with day to day lab management including ordering research supplies and assisting in the experiments.

**Fringe Benefits**

Fringe benefits were calculated using the University of California Office of the President (UCOP) approved composite rates for Faculty of 37.4%, Staff-Non-Exempt of 56%, and Students 2.9%.

**Other Direct Costs**

**Equipment (\$10,000 in year 01)**

Purchase of a centrifuge.

**Materials and Supplies (\$30,000 Y1-5)**

**Tissue Culture and Molecular Biology Supplies and Reagents: \$14,708 Y1-5**

- Cell culture media and reagents – \$8,500
- Constructs, enzymes, mini-midi prep kits, primers, antibodies – \$2,831

- Plasticware and other consumables – \$5,000

**Endpoint Assays (apoptosis and signaling): \$4,423 y2-5**

- Reagents, kits and antibodies (TOM20, NDUFS1, Ki67, Caspase 3, TMRE) for western blotting, immunohistochemistry and measuring cell viability and  $\Delta\Psi$  - \$7,000
- Analyzing respiration using the Seahorse XF96 bioanalyzer - \$3,000

**Other Costs (\$41,704 for years 1-5)**

**Housing and Breeding Mice: \$15,000**

- Maintaining breeding pairs of the KP<sub>Luc</sub> and KL<sub>Luc</sub> mice – **\$4,672**
  - \$1.6/cage/day x 10 cages (3 mice per cage, 2 cages per strain) x 365 days = \$4,672
- KP<sub>Luc</sub> and KL<sub>Luc</sub> mice for preclinical studies – **\$2,560**
  - 40 KP<sub>Luc</sub> at 4 mice per cage = 10 cages x \$1.6/cage = \$12.8/day x 100 days = \$1,280
  - 40 KL<sub>Luc</sub> at 4 mice per cage = 10 cages x \$1.6/cage = \$12.8/day x 100 days = \$1,280
- NSG/ mice for xenografts studies – **\$2,838**
  - Purchase \$43.07/NSG mouse x 80 mice = \$3,446
  - 40 mice at 4 mice per cage = 10 cages x \$1.6/cage/day = \$16/day x 100 days = \$1,600
- Genotyping mice – **\$4,170**
  - \$10/mouse x genotyping of 417 KP<sub>Luc</sub> and KPK<sub>Luc</sub>, mice = \$4,170

**Fee Remissions for Graduate Student Researcher (\$16,472 for years 1-5)**

- Annual Tuition and fees for the Graduate Student Researcher

**Technology Infrastructure Fee (TIF): \$**

The Technology Infrastructure Fee (TIF) is a consistently-applied direct charge that is assessed to each and every campus activity unit, regardless of funding source, including units identified as individual grant and contract awards. The TIF pays for campus communication services on the basis of a monthly accounting of actual usage data. These costs are charged as direct costs and are not recovered as indirect costs. The current TIF rate is \$43.02/FTE/month.

**Travel: \$2,000 per year for Years 1-5**

Travel for the PI to attend on national meeting to present data.

**INDIRECT COSTS**

The current negotiated F&A cost rate agreement with DHHS dated 5/3/2017 establishes UCLA's on-campus research rate fixed at 56% for July 1, 2018–June 30, 2019. Any rates used July 1, 2019 and beyond are provisional.