General Guide for Preparing Modular Budget Justifications

http://grants.nih.gov/grants/developing_budget.htm

NIH Modular Budgets

NIH uses a modular budget format (applicants request funds in lump sums of $25,000 intervals) for some applications, rather than requiring a full detailed budget. The modular budget format is not accepted for SBIR and STTR grant applications. SBIR and STTR applicants must complete and submit budget requests using the SF424 Research and Related (R&R) Budget component. Applications from foreign (non-U.S.) institutions must include only detailed (non-modular) budgets (see NIH Guide Notice NOT-OD-06-096).

- Creating a modular budget:
  - Select the PHS398 Modular Budget Component form for your submission package, and use the appropriate set of instructions from the electronic application user's guide. You do not need to submit the SF424 (R&R) Budget Component form if you submit the PHS398 Modular Budget form.
  - Consider creating a detailed budget for your own institution's use including salaries, equipment, supplies, graduate student tuition, etc. for every year of funds requested. While the NIH will not ask for these details, they are important for you to have on hand when calculating your F&A costs base and writing your justification, and for audit purposes.
  - In order to determine how many modules you should request, subtract any consortium F&A from the total direct costs, and then round to the nearest $25,000 increment.
- A modular budget justification should include:
  - *Personnel Justification:* The Personnel Justification should include the name, role, and number of person-months devoted to this project for every person on the project. Do not include salary and fringe benefit rate in the justification, but keep in mind the legislatively mandated salary cap when calculating your budget. [When preparing a modular budget, you are instructed to use the current cap when determining the appropriate number of modules.]
  - *Consortium Justification:* If you have a consortium/subcontract, include the total costs (direct costs plus F&A costs), rounded to the nearest $1,000, for each consortium/subcontract. Additionally, any personnel should include their roles and person months; if the consortium is foreign, that should be stated as well.
  - *Additional Narrative Justification:* Additional justification should include explanations for any variations in the number of modules requested annually. Also, this section should describe any direct costs that were excluded from the total direct costs (such as equipment, tuition remission) and any work being conducted off-site, especially if it involves a foreign study site or an off-site F&A rate.

Detailed Budget: Personnel (Sections A & B)

Personnel make up sections A and B of the SF424 (R&R) Budget form. *All personnel from the applicant organization dedicating effort to the project should be listed on the personnel budget with their base salary and effort, even if they are not requesting salary support.*

- *Effort:* Effort must be reported in person months. For help converting percent effort to person months, see: http://grants.nih.gov/grants/policy/person_months_faqs.htm.
- *Salary Caps:* NIH will not pay requested salary above the annual salary cap, which can be found at http://grants.nih.gov/grants/policy/salcap_summary.htm. If salary is requested above the salary cap, NIH will reduce that line item to the salary cap, resulting in a reduced total award amount. In future years, if the salary cap increases, grantees may rebudget to pay investigator salaries up to the new salary cap, but NIH will not increase the total award amount. If you are preparing a detailed budget, you are instructed to base your request on actual institutional base salaries (not the cap) so that NIH staff has the most current information in hand at the time of award and can apply the appropriate salary cap at that time.
- *Fringe Benefits:* The fringe benefits rate is based on your institution's policy; the NIH does not have a pre-set limit on fringe benefits. More information on what is included as fringe benefits can be found in the Grants Policy Statement at http://grants.nih.gov/grants/policy/nihgps_2011/nihgps_ch7.htm#Fringe_Benefits. If you have questions about what rate to use, consult your institution's sponsored programs office.
- *Senior/Key Personnel:* The Senior/Key Personnel section should include any senior or key personnel *from the applicant organization* who are dedicating effort to this project. "Other Significant Contributors" who dedicate negligible effort should not be included. Some common significant contributors include: 1) CEOs of companies who provide overall leadership, but no direct contribution to the research; and 2) mentors for K awardees, who provide advice and guidance to the candidate but do not work on the project. Likewise, any consultants or collaborators who are not employed by the applicant organization should not be included in section A, but rather should be included in section F.3 of the budget (for consultants) or in section A of the consortium/subaward budget page (for collaborators).
- *Postdoctoral Associates:* Postdocs can be listed in either section A or B depending on their level of involvement in project design and execution. If listed in section B, include the individuals' names and level of effort in the budget justification section.
- *Graduate Students:* Graduate students can be listed in either section A or B, but if listed in section B, include the individuals' names and level of effort in the budget justification section. Tuition remission is included in section F.8 (not section A), but is included in the graduate student compensation limits. For more about the graduate student compensation limit, see: http://grants.nih.gov/grants/guide/notice-files/NOT-OD-02-017.html. For current NRSA stipend levels, see the NRSA help page at: http://grants.nih.gov/training/nrsa.htm.
- *Other Personnel:* Other personnel can be listed by project role. If multiple people share the same role such as "lab technician", indicate the number of personnel to the left of the role description, add their person months together, and add their requested salaries together. The salaries of secretarial/clerical staff should normally be treated as F&A costs. Direct charging of these costs may be appropriate where a major project or activity explicitly budgets for administrative or clerical services and individuals involved can be specifically identified with the project or activity [see Exhibit C of OMB Circular A-21 (relocated to 2 CFR, Part 220)]. Be specific in your budget justifications when describing other personnel's roles and responsibilities.

Detailed Budget: Equipment, Travel, and Trainee Costs (Sections C, D, and E)

- *Equipment:* Equipment is defined as an item of property that has an acquisition cost of $5,000 or more (unless the organization has established lower levels) and an expected service life of more than one year. Tips:
  - Generally equipment is excluded from the F&A base, so if you have something with a short service life (< 1 year), even if it costs more than $5,000, you are better off including it under "supplies".
  - If you request equipment that is already available (listed in the Facilities & Other Resources section, for example), the narrative justification must explain why the current equipment is insufficient to accomplish the proposed research and how the new equipment's use will be allocated specifically to the proposed research. Otherwise, NIH may disallow this cost.
  - General purpose equipment, such as desktop computers and laptops, that will be used on multiple projects or for personal use should not be listed as a direct cost but should come out of the F&A costs, unless primarily or exclusively used in the actual conduct of the proposed scientific research.
  - While the application does not require you to have a price quote for new equipment, including price quotes in your budget justification can aid in the evaluation of the equipment cost to support the project.
- *Travel:* In the budget justification, include the destination, number of people traveling and dates or duration of your stay for all anticipated travel. As with the equipment justification, it is important that you clearly state how the travel is directly related to your proposed research (e.g. you can go to a conference to present your research, but not just for the purpose of "staying current in your field"). You should refer to your institution's travel policy for guidance on how you should arrange the travel, but if your institution lacks a policy, it is expected that you will follow the U.S. federal government policy found here: http://www.gsa.gov/federaltravelregulation.
- *Trainee Costs:* Leave this section blank unless otherwise stated in the FOA. Graduate student tuition remission can be entered in section F.8.

Detailed Budget: Other Direct Costs (Section F)

- *Materials and Supplies:* In the budget justification, indicate general categories such as glassware, chemicals, animal costs, including an amount for each category. Categories that include costs less than $1,000 do not have to be itemized.
- *Animal Costs:* While included under "materials and supplies", it is often helpful to include more specific details about how you developed your estimate for animal costs. Include the number of animals you expect to use, the purchase price for the animals (if you need to purchase any), and your animal facility's per diem care rate, if available. Details are especially helpful if your animal care costs are unusually large or small. For example, if you plan to follow your animals for an abnormally long time period and do not include per diem rates, the reviewers may think you have budgeted too much for animal costs and may recommend a budget cut.
- *Publication Costs:* You may include the costs associated with helping you disseminate your research findings from the proposed research. If this is a new application, you may want to delay publication costs until the later budget periods, once you have actually obtained data to share.
- *Consultant Services:* Consultants differ from Consortiums in that they may provide advice, but should not be making decisions for the direction of the research. Typically, consultants will charge a fixed rate for their services that includes both their direct and F&A costs. You do not need to report separate direct and F&A costs for consultants; however, you should report how much of the total estimated costs will be spent on travel. Consultants are not subject to the salary cap restriction; however, any consultant charges should meet your institution's definition of "reasonableness".
- *ADP/Computer Services:* The services you include here should be research specific computer services- such as reserving computing time on supercomputers or getting specialized software to help run your statistics. This section should not include your standard desktop office computer, laptop, or the standard tech support provided by your institution. Those types of charges should come out of the F&A costs.
- *Alterations and Renovations (A&R):* A&R does not include general maintenance projects (normally handled under F&A) or projects exceeding $500,000 (considered "construction" projects). A&R can be used for projects such as altering a room to make space for a new grant-related piece of equipment. If applicable:
  - Justify basis for costs, itemize by category.
  - Enter the total funds requested for alterations and renovations. Where applicable, provide the square footage and costs.
  - If A&R costs are in excess of $300,000 further limitations apply and additional documentation will be required.
- *Research Patient Care Costs:* Few budgets contain patient care expenses, however if inpatient and/or outpatient costs are requested, the following information should be provided:
  - The names of any hospitals and/or clinics and the amounts requested for each.
  - If both inpatient and outpatient costs are requested, provide information for each separately.
  - Provide cost breakdown, number of days, number of patients, costs of tests/treatments.
  - Justify the costs associated with standard care or research care. (Note: If these costs are associated with patient accrual, restrictions may be justified in the Notice of Award.)
    (See NIH Grants Policy Statement NIH Grants Policy Statement, Research Patient Care Costs)
- *Tuition:* In your budget justification, for any graduate students on your project, include what your school's tuition rates are. You may have to report both an in-state and out-of-state tuition rate. Depending on your school stipend and tuition levels, you may have to budget less than your school's full tuition rate in order to meet the graduate student compensation limit (equivalent to the NRSA zero-level postdoctorate stipend level).
- *Other:* Some types of costs, such as entertainment costs, are not allowed under federal grants. NIH has included a list of the most common questionable items in the NIH Grants Policy Statement (http://grants.nih.gov/grants/policy/nihgps_2011/nihgps_ch7.htm#selected_cost_items). If NIH discovers an unallowable cost in your budget, generally we will discount that cost from your total award amount, so it is in your best interest to avoid requesting

unallowable costs. If you have any question over whether a cost is allowable, contact your sponsored programs office or the grants management specialist listed on the funding opportunity announcement.

Consortiums/Subawards

If you are using the detailed budget format, each consortium you include must have an independent budget form filled out.

- *Direct costs:*
  - In the rare case of third tier subawards, section F.5 "subawards/consortium/contractual" costs should include the total cost of the subaward, and the entire third tier award is considered part of the direct costs of the consortium for the purposes of calculating the primary applicant's direct costs.
  - Cost Principles. Regardless of what cost principles apply to the parent grantee, the consortium is held to the standards of their respective set of cost principles.
- *F&A:*
  - Consortium F&A costs are NOT included as part of the direct cost base when determining whether the application can use the modular format (direct costs < $250,000 per year), or determining whether prior approval is needed to submit an application (direct costs $500,000 or more for any year).

    NOTE: This policy does not apply to applications submitted in response to RFAs or in response to other funding opportunity announcements including specific budgetary limits.

  - F&A costs for the first $25,000 of each consortium may be included in the modified total direct cost base, when calculating the overall F&A rate, as long as your institution's negotiated F&A rate agreement does not express prohibit it.
  - If the consortium is a foreign institution or international organization, F&A for the consortium is limited to 8%.
  - If the consortium is with a for-profit entity, such as a small business, the organization must have a negotiated F&A rate before they can charge F&A costs. The default small business rate of 40% is only applicable to SBIR (R43 &R44) and STTR (R41 & R42) applications. See the Division of Financial and Accounting Services (DFAS) at NIH to set up a rate: http://oamp.od.nih.gov/dfas/IdCSubmission.asp
- *Justification:*
  - Consortiums should each provide a budget justification following their detailed budget. The justification should be separate from the primary grantee's justification and address just those items that pertain to the consortium.

EXAMPLE #1: Budget justification example request for a simple modular budget justification – same # of modules per year (i.e., $225,000 direct costs per year; Project total direct costs $1,125,000 over 5 years):

Key Personnel:

Sal Monella, MD, Principal Investigator, (Effort: 3 person months) will be responsible for overall coordination and day-to-day direction of this project. Dr. Monella has extensive experience investigating receptor signaling in the development and progression of bacterial infection.

Elle Coli, PhD, Co-Investigator, (Effort: 0.6 person months) will help with interpretation of the transactivation mechanism experiments and the animal studies. She has extensive experience in characterizing the role of receptor dysregulation during X. colonius infection.

Marge Innovera, MS, Biostatistician, (Effort: 0.6 person months) will be responsible for statistically sound design and interpretation of the in vitro and in vivo studies. She has many years of experience in the design and implementation of preclinical bacteriological studies and has worked collaboratively with Drs. Monella and Coli for several years.

Constance Laboring, PhD, Research Associate, (Effort: 12 person months) will serve as a post-doctoral fellow on this project. Dr. Laboring has extensive experience in molecular biology techniques. In Dr. Monella's laboratory, she is investigating receptor signaling pathways in T cells. Dr. Laboring will be responsible for generating the cell cultures from the knockout and control mice, as well as the mechanistic experiments, described under Aim II.

Moe Mentum, BS, Research Specialist, (Effort: 12 person months) has extensive molecular biology experience in over 14 years at the University of Pittsburgh. He will be responsible for cell culture, immunostaining, and assisting Dr. Laboring in the infection studies.

Stephi L O'Coccus, MS, Research Specialist, (Effort: 3 person months) is a senior research specialist in Dr. Coli's laboratory with many years of experience in receptor modulation studies using infection models. She will be responsible for the in vivo determinations of the efficacy of receptor targeting in mice.

Ivana Ottahere BS, Graduate Student, (Effort: 12 person months) isworking collaboratively with the Monella and Coli labs on mechanisms of receptor trans-activation in T cells. Although she will devote 100% time and effort to this project, salary is not requested at this time for Ms. Ottahere since her salary is currently paid through a departmental T32 training grant.

Other Significant Contributors:

Sheri L Dilution, PhD, Consultant, (Effort: 0 person months) is a Professor of Microbiology at Petri University and an expert in animal models of X. colonius infection. She will serve as an advisor for experiments proposed under Specific Aim II. No salary is requested for Dr. Dilution.

Consortium
None

Fee (SBIR/STTR Only)
None

EXAMPLE #2: Budget justification example request for a simple modular budget justification – same # of modules per year (i.e., $225,000 direct costs year 1 and $200,000 direct costs per year for Years 2-5; Project total direct costs $1,025,000 over 5 years):

Key Personnel:

Jean Poole, PhD, Principal Investigator, (Effort: 3 person months) will oversee and/or personally conduct all aspects of the work that are require to manufacture, maintain, and analyze gene targeted mice. She has extensive expertise in the area of transgenic animal production and analysis especially for use in the study of neuroreceptor function. In addition, Dr. Poole will bear primary responsibility for reviewing and publishing data, creating progress reports, and grant accounting.

Constance Laboring, PhD, Research Associate, (Effort: 6 person months) is a postdoctoral fellow in the Poole laboratory. Dr. Laboring is well trained in molecular biology and neurochemistry. She recently joined the lab and will receive training in knockin mouse production and characterization for study of the nicotinic acetylcholine receptor in Aim II. She will assist Dr. Poole with the day-to-day aspects of manufacturing, maintaining, and analyzing the genetically altered animals. Her participation is critical to the timely completion of the aims of this project.

Anita Holiday, BS, Graduate Student, (Effort: 12 person months) is a third year student in the Molecular Pharmacology graduate training program. Anita has been working in the Poole lab for the past ~2 years. She is quickly learning all aspects of creating and characterizing genetically engineered animals. Anita has a deep interest in alcohol action and will benefit greatly from the training she will receive while working on this project. Along with Dr. Laboring, Anita will be responsible for conducting studies described under Aim III. Her participation is critical to the aims and to her graduate training.

George Stayontopothis, BS, Research Technician, (Effort: 3 person months) has been performing the proposed assays in the labs of Dr. Pat Pending and Dr. Poole since 1988. He is now very experienced producing and working with genetically engineered mice. His responsibilities are to train the graduate student and postdoc on all embryo manipulation tasks related to production of chimeric mice from embryonic stem cells; He will also train personnel and assist with performing behavioral assays (sleep time, loss of righting reflex, rotarod, etc.); and maintaining supplies for these experiments. George is the most senior technician in the lab, is very experienced and independent, and the only technician trained at embryo microinjection. Thus, he is critical to the proposed research program.

Will Cloney, BS, Research Technician, (Effort: 3 person months) has prior experience in molecular biology and cell culture. His responsibilities are two-fold: to oversee the daily operation of the tissue culture laboratory and to assist in the molecular techniques that are an important component of gene targeting experiments. His duties will include assisting with gene targeting experiments in ES cells and the extensive and labor intensive molecular analysis of mice (i.e., genotyping).

Karen Formusmusculos, BS, Research Technician, (Effort: 3 person months) joined the Poole lab in 1996. Her daily responsibilities are to oversee and coordinate the daily operation of the mouse colonies; her participation in this project is critical for maintaining the mouse colonies at levels to accommodate the proposed experiments. Karen's primarily responsibilities are: setting up animal matings, weaning mice, and genotyping mice.

---**See following continuation page**---

Consortium: None

Fee (SBIR/STTR Only): None

Continued from Modular Budget Format Page:

Equipment:

An additional module is requested in the first year for the purchase of a Leica Stereomicroscope (Model MZ125) ($15,000) with accessories, and a Perkin-Elmer 9600 PCR machine ($10,000)

The microscope is required for the numerous embryo manipulations needed for pronuclear injections, blastocyst injections and embryo derivations. Accessories include a transmitted light stand and a Leica ICA analog camera. Members of Dr. Poole's research laboratory and staff in the Transgenic and Chimeric Mouse Facility at the University of Pittsburgh currently share a similar Leica stereomicroscope. This microscope is used for a diverse set of procedures that require a high-power stereomicroscope with a transmitted light stand. These procedures include the collection of preimplantation embryos at various cleavage stages, the collection of ES cell colonies from tissue culture dishes, and the preparation of oocytes and preimplantation embryos for confocal microscopy. Due to this high demand for the shared microscope, acquisition of an additional, versatile, stereomicroscope is necessary to carry out the proposed experiments in a timely manner.

The thermo-cycler, which will accommodate 200 microliter tubes, is required for the extensive genotyping that is necessary for completion of this project. Our current PCR machine is over subscribed and more than 5 years old.

EXAMPLE #3: Modular with a consortium:

BUDGET JUSTIFICATION PAGE MODULAR RESEARCH GRANT APPLICATION						
	Initial Period	**2nd**	**3rd**	**4th**	**5th**	**Sum Total (For Entire Project Period)**
DC less Consortium F&A	250,000 *(Item 7a, Face Page)*	250,000	250,000	250,000	250,000	1,250,000 *(Item 8a, Face Page)*
Consortium F&A	26,000	26,000	26,000	26,000	26,000	130,000
Total Direct Costs	276,000	276,000	276,000	276,000	276,000	$ 1,380,000

Key Personnel:

Ginger Vitis, **DDS, PhD**, Principal Investigator, (Effort: 2.4 person months) will be responsible for the oversight of the data and overall supervision of the studies outlined. She has considerable expertise in the studies of ameloblast differentiation and analysis of autocrine factors expressed by ameloblasts. She will coordinate the efforts of the other investigators to characterize the role of IMC and ADAM8 in normal and pathologic ameloblastogenesis as well as the role of $\alpha_9\beta_1$ integrin in ameloblast formation.

Perry O'Dontal, DDS Co-Investigator, (Effort: 0.6 person months) will be the supervisor for histomorphometry and will direct this analysis including evaluation of results. This represents the expected marginal change in adding the proposed work to the current histomorphometry activity.

Flo S. Daily, PhD, Co-Investigator, (Effort: 3 person months) is an experienced investigator and will be responsible for studies of $\alpha_9\beta_1$ integrin. She will work closely with Dr. Vitis on the ameloblast culture assays, and will participate in constructing all of the vectors proposed.

Nomar Sweets, MD, PhD, Co-Investigator, (Effort: 2.4 person months) is an experienced investigator in studies of dental biology and has been involved in characterization of ameloblast -derived gene products for the last three years. He will be responsible for the IMC studies outlined in the proposal. He has extensive experience in working on mouse models and in vitro studies of ameloblast formation.

Morey Noah Cane, BS, Research Technician, (Effort: 6 person months) will assist the investigators in the molecular biology studies and measurements and ameloblast culture assays. He is an experienced technician who has over two years experience in molecular biology techniques; human, mouse, and cell models; and has worked very closely with lab personnel in the past.

Thad Hertz, DMD, PhD Research Associate, (Effort: 6 person months) will assist the investigators in cutting and interpreting sections of teeth from several dozen transgenic animals. He has experience in tissue staining and computer-assisted image analysis, and will also manage re-supply of equipment, mailing, and inventory. When indicated, Dr. Hertz will perform tissue labeling studies such as cathepsin K and alkaline or acid phosphatase. He will also receive and send samples and data from completed analyses.

Consortium:

Approximately $80,000 total cost per year (49% F&A; $54,000 direct costs)
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Domestic Entity

Key Personnel:

Ophelia Payne, PhD, Principal Investigator, (Effort: 1.8 person months) will directly oversee the production and initial characterization of new lines of genetically modified mice in her laboratory and the shipment of experimental animals to Pittsburgh. She will actively participate in planning experiments, reviewing data, and writing manuscripts with Dr. Vitis. **--- See following Continuation Page---**

Fee (SBIR/STTR Only): None

Consortium Key Personnel Continued:

Karen Formusmusculus, MS, Research Technician, (Effort: 2.4 person months) will be responsible for the routine animal husbandry related to this project (including matings, weaning, tail DNA preparation and screening), both for maintenance of the various lines of mice as well as for production of experimental animals to be shipped to Pittsburgh.

Will Cloney, PhD, Research Associate, (Effort: 3.6 person months) will be responsible for constructing the knock-out targeting vectors and transgenes, for characterizing ES cell clones to identify homologous recombinants, and for breeding the resulting chimeras and screening offspring for germline transmission. He will also be responsible for carrying out the initial characterization of transgene expression in each line of mice, as well as confirmation of selected Affymetrix results, by real-time RT-PCR analysis.