

## EXAMPLE DETAILED BUDGET JUSTIFICATION

### Personnel

**EXAMPLE PI, Ph.D.**, Principal Investigator (3.0 Calendar Months / 25.0% FTE). The PI will devote 25% of their effort to this project. They will supervise all phases of the proposed research. Salary for Dr. EXAMPLE PI is requested at the current salary cap of \$221,900. Should the NIH salary cap be increased before award, we respectfully request that the higher cap be utilized as Dr. EXAMPLE PI's salary exceeds the cap.

**EXAMPLE POST DOC, Ph.D.**, (12.0 Calendar Months / 100% FTE) is a postdoctoral research fellow in the laboratory. They will perform the experiments in specific aims 1 and 2 to DO SCIENCE THINGS.... They will also conduct experiments using SPECIALIZED SCIENCE TECHNIQUES.

**POSTDOCTORAL RESEARCH FELLOW (To be named)** (12.0 Calendar Months / 100% FTE) This postdoctoral research fellow will conduct the experiments in specific aims 1 and 2 to analyze SCIENCE THINGS. He/she will also conduct experiments using A COOL SCIENCE TECHNIQUE.

**EXAMPLE RESEARCH TECHNICIAN**, (6.0 Calendar Months / 50% FTE). This senior research technician will work with the two postdoctoral research fellows to DO SCIENCE THINGS.

**EXAMPLE PI COLLABORATOR. Ph.D.**, (0.6 Calendar Months/ 5% FTE). EXAMPLE PI COLLABORATOR is an assistant professor at EXAMPLE INSTITUTION. They will oversee a member of their lab (TBN Computer Analyst) to conduct the SCIENTIFIC ANALYSIS we obtain in Aim 1 and 2.

**COMPUTER ANALYST (To be named)**, (3.0 Calendar Months / 20.0% FTE). This member of DR. EXAMPLE PI COLLABORATOR'S lab will conduct the SCIENTIFIC ANALYSIS we obtain in Aim 1 and 2.

**EXAMPLE PI OSC, Ph.D.**, Other Significant Contributor (no salary is requested). DR. EXAMPLE PI OSC is an assistant professor at EXAMPLE INSTITUTION. They will oversee a member of their lab (EXAMPLE BIOINFORMATICS ANALYST) to conduct the computational analyses of SCIENCE data we obtain in Aim 2.

**EXAMPLE BIOINFORMATICS ANALYST**, (2.4 Calendar Months / 20.0% FTE). This member of EXAMPLE PI OSC's lab will conduct the computational analyses of SCIENCE data we obtain in Aim 2.

The projected salaries of postdoctoral research fellows are based on those currently required for exempt employees under EXAMPLE STATE law. Institutional base salary support follow institutional guidelines of EXAMPLE INSTITUTION, with 3% increase expected annually in base compensation. Dr. EXAMPLE PI's listed institutional base salary is the current NIH salary cap. EXAMPLE INSTITUTION's institutional 26.8% fringe rate is for faculty and postdocs and 34% for Research Technicians/Analysts and these rates have been applied for eligible salaried employees.

### Materials and Supplies

Costs for lab supplies are estimated from current expenses in the lab **\$15,125 in Y1-Y5** to account for mammalian cell culture related increase in expenses. These estimates are based on the preliminary studies described in this application.

**\$7,000** – for Drosophila media used in routine culturing, as well as in the genetic experiments and in the transgenic analyses described

**\$2,125** – Ribosomal profiling reagents and immunocomplex pulldown.

**\$2,000** – for microscopy related items including slides, coverslips.

**\$3,500** – for restriction, nucleic acid modifying, and PCR enzymes.

**\$500** – glassware and plasticware.

### Travel (Domestic)

These funds are conservative estimates to cover the costs of travel, lodging and registration for one scientific meeting each for the PI, and two post-doctoral fellow scientist involved in the project to attend a meeting. It is

important for the researchers in the lab to get experience presenting their data at a National meeting, for the lab's work to be presented to the scientific community, and to keep up with the latest scientific and technical advances in the field: **\$6,000/year**.

### **Publications**

\$5,300-\$8,500 is requested for Y2-Y5 to offset costs of manuscript preparation, submission and open access publication fees \$5,300-\$6,500 charged by journal such as PLoS Bio, Nature Communications and Cell Reports. For earlier years **Y2, Y3**, we anticipate at least one study per year and have estimated **\$5,300**. For the later years **Y4, Y5** we expect 2 publications per year and have estimated **\$8,500**.

### **Shared Resources:**

The project requires access to imaging facilities for Lipidomics and Genomics:

**LIPODOMICS:** For measuring SCIENCE THING (Aim 1b, 2b), we will use Lipid profiling \$136 per sample. In our experience, to get meaningful statistical analysis from Drosophila tissue samples during genetic manipulations and aged states we perform experiments in 10 biological replicates (\$1,360 per experimental condition for Drosophila tissue) is critical to get statistically meaningful results given the variability of metabolites between replicates. We are budgeting to perform 6 different conditions for **Y4 and Y5 \$8,160**.

**GENOMICS:** For ribosome profiling, in normal, aged and genetically manipulated conditions where a pool of 100M reads, that can hold 5 samples is \$1,648. We need 20M reads and 4 biological replicates per condition. For Aim 1c have a total of 4 experimental genotypes and 4 conditions for Aim 1 (16 samples including 4 biological replicates – 64 samples) per state. For Aim 2c, we have (12 samples and 4 biological replicates at 48 samples) samples including experimental conditions, genotypes and biological replicates. For a total of 112 samples, pooled into 20 runs at \$1,648 per pool- working out to **\$10,987/yr from Y1-Y3**.

### **Transgenic Flies and Antibodies**

We will be generating two kinds of transgenic flies.

1. XY12-mediated transgenesis: This will be to generate ABC lines for genes of interest identified from the global experiments. These cost \$290 to generate we estimate generating 8-10 transgenic flies per year based on prior experience.
2. CRISPR knock-in: Generation of CRISPR endogenous tag knock in will be or use CRISPR based techniques to generate specific point mutations in genes such as ZA1 and ZYX tag for Draper. It will be performed for a select few hits and cost \$4,700 to generate per line.
3. Antibodies: We will generate antibodies for specific proteins that are required for mitovesicles generation in the fat and reception of mitovesicles in the brain. These antibodies will be generated if commercially available antibodies do not exist or do not recognize Drosophila homologs. Antibodies cost \$1,980 per antibody.

We have budgeted \$13,100 for generation Y1 (due to generation of sophisticated CRISPR based Tags and mutations) and \$7,600 in Y1-Y4 for this category based on prior project experience.

### **Data Management and Sharing Justification**

Data storage/institutional scientific computing: **\$1,000/year**

This is the cost of data storage at EXAMPLE INSTITUTION for storing data for the DMSP (Data management and sharing plan) on the EXAMPLE INSTITUTION'S cluster. We expect charges \$50/month per terabyte for data storage in its high-performance volume— **A yearly total of \$1,000**— which our image analysis requires.

### **FACILITIES & ADMINISTRATIVE COSTS**

In accordance with the most recent rate agreement between the EXAMPLE INSTITUTION and the Department of Health and Human Services, dated XX/XX/XX (DHHS Contact EXAMPLE A, ph. 123-456-7891), indirect cost recovery is requested at 76.0% of Modified Total Direct Costs (MTDC). The MTDC base is defined as total direct costs less all capital equipment items (>\$5,000), alterations and renovations, patient care costs, stipends, tuition, and the portion of each subcontract agreement in excess of \$25,000 per project period.

# DETAILED BUDGET PLAN

## EXAMPLE DETAILED BUDGET

Personnel	Base	Eff %	Req Sal	Fringe	FriRat	Vac	VacRat	Tot Fringe	Funds Req	Year 1	Year 2	Year 3	Year 4	Year 5
<b>PI</b>														
Yr 1	221,900	25%	55,475	14,867	26.80%	0	0.00%	14,867	70,342	70,342				
Yr 2	221,900	25%	55,475	14,867	26.80%	0	0.00%	14,867	70,342		70,342			
Yr 3	221,900	25%	55,475	14,867	26.80%	0	0.00%	14,867	70,342			70,342		
Yr 4	221,900	25%	55,475	14,867	26.80%	0	0.00%	14,867	70,342				70,342	
Yr 5	221,900	25%	55,475	14,867	26.80%	0	0.00%	14,867	70,342					70,342
<b>Post Doc</b>														
Yr 1	60,000	100%	60,000	16,080	26.80%	0	0.00%	16,080	76,080	76,080				
Yr 2	61,800	100%	61,800	16,562	26.80%	0	0.00%	16,562	78,362		78,362			
Yr 3	63,654	100%	63,654	17,059	26.80%	0	0.00%	17,059	80,713			80,713		
Yr 4	65,564	100%	65,564	17,571	26.80%	0	0.00%	17,571	83,135				83,135	
Yr 5	67,531	100%	67,531	18,098	26.80%	0	0.00%	18,098	85,629					85,629
<b>Postdoc (TBN)</b>														
Yr 1	60,000	100%	60,000	16,080	26.80%	0	0.00%	16,080	76,080	76,080				
Yr 2	61,800	100%	61,800	16,562	26.80%	0	0.00%	16,562	78,362		78,362			
Yr 3	63,654	100%	63,654	17,059	26.80%	0	0.00%	17,059	80,713			80,713		
Yr 4	65,564	100%	65,564	17,571	26.80%	0	0.00%	17,571	83,135				83,135	
Yr 5	67,531	100%	67,531	18,098	26.80%	0	0.00%	18,098	85,629					85,629
<b>Senior Lab Technician</b>														
Yr 1	80,000	50%	40,000	10,720	26.80%	2,880	7.20%	13,600	53,600	53,600				
Yr 2	82,400	50%	41,200	11,042	26.80%	2,966	7.20%	14,008	55,208		55,208			
Yr 3	84,872	50%	42,436	11,373	26.80%	3,055	7.20%	14,428	56,864			56,864		
Yr 4	87,418	50%	43,709	11,714	26.80%	3,147	7.20%	14,861	58,570				58,570	
Yr 5	90,041	50%	45,020	12,065	26.80%	3,241	7.20%	15,307	60,327					60,327
<b>Bioinformatic Analyst</b>														
Yr 1	70,000	20%	14,000	3,752	26.80%	1,008	7.20%	4,760	18,760	18,760				
Yr 2	72,100	20%	14,420	3,865	26.80%	1,038	7.20%	4,903	19,323		19,323			
Yr 3	74,263	20%	14,853	3,980	26.80%	1,069	7.20%	5,050	19,902			19,902		
Yr 4	76,491	20%	15,298	4,100	26.80%	1,101	7.20%	5,201	20,500				20,500	
Yr 5	78,786	20%	15,757	4,223	26.80%	1,135	7.20%	5,357	21,115					21,115
<b>OSC—NOT CONTRIBUTING SALARY OR EFFORT</b>														
Yr 1	0	0%	0	0	26.80%	0	0.00%	0	0	0				
Yr 2	0	0%	0	0	26.80%	0	0.00%	0	0		0			
Yr 3	0	0%	0	0	26.80%	0	0.00%	0	0			0		
Yr 4	0	0%	0	0	26.80%	0	0.00%	0	0				0	
Yr 5	0	0%	0	0	26.80%	0	0.00%	0	0					0
<b>PI (Collaborator)</b>														
Yr 1	150,000	5%	7,500	2,010	26.80%	0	0.00%	2,010	9,510	9,510				
Yr 2	154,500	5%	7,725	2,070	26.80%	0	0.00%	2,070	9,795		9,795			
Yr 3	159,135	5%	7,957	2,132	26.80%	0	0.00%	2,132	10,089			10,089		
Yr 4	163,909	5%	8,195	2,196	26.80%	0	0.00%	2,196	10,392				10,392	
Yr 5	168,826	5%	8,441	2,262	26.80%	0	0.00%	2,262	10,704					10,704
<b>Computer Analyst (TBN)</b>														
Yr 1	60,000	20%	12,000	3,216	26.80%	864	7.20%	4,080	16,080	16,080				
Yr 2	61,800	20%	12,360	3,312	26.80%	890	7.20%	4,202	16,562		16,562			
Yr 3	63,654	20%	12,731	3,412	26.80%	917	7.20%	4,328	17,059			17,059		
Yr 4	65,564	20%	13,113	3,514	26.80%	944	7.20%	4,458	17,571				17,571	
Yr 5	67,531	20%	13,506	3,620	26.80%	972	7.20%	4,592	18,098					18,098
<b>Salary Total</b>										<b>320,452</b>	<b>327,956</b>	<b>335,684</b>	<b>343,644</b>	<b>351,843</b>
<b>Materials and Supplies</b>										15,125	15,125	15,125	15,125	15,125
<b>Travel (Domestic)</b>										6,000	6,000	6,000	6,000	6,000
<b>Publications</b>										0	5,300	5,300	8,500	8,500
<b>Genomics</b>										10,987	10,987	10,987		
<b>Lipidomics</b>													8,160	8,160
<b>Transgenic Flies and Antibodies</b>										13,100	7,600	7,600	7,600	7,600
<b>Data Storage and Scientific Computing (DMSP)</b>										1,000	1,000	1,000	1,000	1,000
										366,664	373,968	381,696	390,029	398,228
<b>Subtotal Direct</b>										<b>366,664</b>	<b>373,968</b>	<b>381,696</b>	<b>390,029</b>	<b>398,228</b>
<b>F&amp;A Rate</b>	76%													
<b>F&amp;A Costs</b>										278,665	284,215	290,089	296,422	302,654
<b>Grand Total</b>										<b>645,329</b>	<b>658,183</b>	<b>671,785</b>	<b>686,451</b>	<b>700,882</b>