

State of California  
AIR RESOURCES BOARD

RESEARCH PROPOSAL

Resolution 08-29

May 22, 2008

Agenda Item No.: 08-5-4

WHEREAS, the Air Resources Board has been directed to carry out an effective research program in conjunction with its efforts to combat air pollution, pursuant to Health and Safety Code sections 39700 through 39705;

WHEREAS, a research proposal, number 2658-260, entitled "Systemic Platelet Activation in Mice Exposed to Fine Particulate Matter" has been submitted by the University of California, Davis;

WHEREAS, the Research Division staff has reviewed and recommended this proposal for approval; and

WHEREAS, the Research Screening Committee has reviewed and recommends for funding:

Proposal Number 2658-260, entitled "Systemic Platelet Activation in Mice Exposed to Fine Particulate Matter," has been submitted by the University of California, Davis, for a total amount not to exceed \$300,000.

NOW, THEREFORE BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code section 39703, hereby accepts the recommendation of the Research Screening Committee and approves the following:

Proposal Number 2658-260, entitled "Systemic Platelet Activation in Mice Exposed to Fine Particulate Matter," has been submitted by the University of California, Davis, for a total amount not to exceed \$300,000.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein, and as described in Attachment A, in an amount not to exceed \$300,000.

I hereby certify that the above is a true and correct copy of Resolution 08-29, as adopted by the Air Resources Board.

/s/

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Monica Vejar, Clerk of the Board

**ATTACHMENT A****“Systemic Platelet Activation in Mice Exposed to Fine Particulate Matter”****Background:**

While there are many epidemiologic studies that suggest that particulate matter (PM) exposure exacerbates chronic cardiovascular disease, available data investigating biologically-based explanations for these effects do not fully explain the epidemiologic findings, and raise questions as to whether or not the ambient air quality standards for particulate matter are adequate to protect the public from adverse health effects related to PM exposure. Existing data suggest that a potentially fruitful avenue for investigation involves effects of PM on the vascular endothelium, and subsequent effects on platelet function.

**Objective:**

The objective of this proposal is to investigate the potential for fine PM to alter pulmonary endothelial function and up-regulate platelet function, thereby promoting blood clotting and thrombus formation, factors that contribute to heart attacks and strokes.

**Expected Results:**

This proposal addresses an important research topic. The results will help to elucidate the role of platelets in inducing adverse health effects, including heart attack and stroke, following exposure to PM. They will also help to address the critical lack of mechanistic data that support the biological validity of the observed epidemiologic associations, and will help to guide future research planning.

**Significance to the Board:**

The results of this project will provide critically needed data to support the association between PM exposure and adverse health effects, particularly in people with chronic cardiovascular disease. They will also help to ensure that the ambient air quality standards for PM are adequate to protect the health of the public, including people with chronic cardiovascular disease.

**Contractor:**

University of California, Davis

**Contract Period:**

24 months

**Principal Investigator (PI):**

Fern Tablin, VMD, PhD (PI)

Dennis Wilson, DVM, PhD (Co-PI)

**Contract Amount:**

\$300,000

**Basis for Indirect Cost Rate:**

The State and the UC system have agreed to a ten percent indirect cost rate.

**Past Experience with this Principal Investigator:**

This is the first time we have worked with these investigators. Dr. Tablin has been with UC Davis since 1985, and Dr. Wilson since 1983. Both are full professors, have consistently been successful in competing for extramural funding from various federal sources, and have published their research in many scientific papers. The investigators were prompt and responsive in making changes to the proposal as directed by ARB staff.

**Prior Research Division Funding to the University of California, Davis:**

Year	2007	2006	2005
Funding	\$836,064*	\$1,680,990*	\$780,085

\*The California Energy Commission provided \$918,000 of this amount.

## B U D G E T S U M M A R Y

Contractor: University of California, Davis

“Systemic Platelet Activation in Mice Exposed to Fine Particulate Matter”

### **DIRECT COSTS AND BENEFITS**

1.	Labor and Employee Fringe Benefits	\$ 188,383
2.	Subcontractors	\$ 0
3.	Equipment	\$ 0
4.	Travel and Subsistence	\$ 0
5.	Electronic Data Processing	\$ 0
6.	Reproduction/Publication	\$ 0
7.	Mail and Phone	\$ 0
8.	Supplies	\$ 84,344 <sup>1</sup>
9.	Analyses	\$ 0
10.	Miscellaneous	<u>\$ 0</u>

Total Direct Costs \$ 272,727

### **INDIRECT COSTS**

1.	Overhead	\$ 27,273
2.	General and Administrative Expenses	\$ 0
3.	Other Indirect Costs	\$ 0
4.	Fee or Profit	<u>\$ 0</u>

Total Indirect Costs \$ 27,273

**TOTAL PROJECT COSTS** **\$ 300,000**

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<sup>1</sup> Includes: flow cytometry reagents and antibodies, immunohistochemistry antibodies, cytokine analysis kits, microscopy charges, animals, STAT Compact Diagnostica Stago and reagent kits, and general laboratory supplies.