



STATEMENT OF SUZANNE R. PFEFFER, PH.D.

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AMERICAN SOCIETY FOR BIOCHEMISTRY AND MOLECULAR BIOLOGY**

**SUBCOMMITTEE OF LABOR, HEALTH, AND HUMAN SERVICES
COMMITTEE ON APPROPRIATIONS
UNITED STATES HOUSE OF REPRESENTATIVES**

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Chairman Rehberg, Ranking Member DeLauro, and members of the subcommittee, thank you for the opportunity to provide perspectives on behalf of the members of the American Society for Biochemistry and Molecular Biology (ASBMB). I am Suzanne Pfeffer, President of ASBMB and Professor of Biochemistry at Stanford University School of Medicine. I am appearing here regarding the necessity for robust, sustained, and predictable support for the National Institutes of Health. Before discussing the views of my society, I want to thank you, Chairman Rehberg, for convening this hearing and for your support of the NIH during your tenure as chair of the subcommittee. Your proposal last year to increase the President's request was welcomed and supported by ASBMB. Ranking Member DeLauro, there are few who speak as passionately as you do on the importance of federal support for biomedical research and the NIH. Your longtime support for the biomedical research community is greatly appreciated.

I am here representing the ASBMB, a nonprofit scientific and educational organization that was established in 1906 by 28 biochemists and has since grown to an organization with more than 12,000 members worldwide. Most members conduct research and teach at colleges and universities, government laboratories, at nonprofit research institutions and in industry. The Society's student members attend undergraduate and graduate institutions. We are proud to include 97 Nobel Prize winners among our members since 1922.

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The increased longevity and improved quality of life enjoyed by Americans over the past century can be attributed in large part to innovations resulting from discoveries and breakthroughs in biomedical research--most of which stem from biochemistry and molecular biology. Beyond health improvements, the biomedical research enterprise has been a key segment of economic growth and job creation in the 21st century.

Let me highlight a few key contributions made in the fields represented by ASBMB that have made this possible. Biochemistry deals with how molecules taken in as food are converted into other molecules that are essential for normal, healthy biological function. Control of the conversion of fats into cholesterol is key to reducing the risk of cardiovascular disease. Our knowledge of these biochemical pathways led to the development of a number of drugs that have contributed greatly to the reduction in death due to cardiovascular disease.

Molecular biology is a field that emerged as a marriage of biochemistry with genetics. Molecular biology is the foundation for much of modern biomedical science including genomics and other cutting edge technologies being used today. Discoveries in molecular biology led to the development of biotechnology as an entirely new industry. Biotechnology allows the production of complex biological molecules such as human insulin and antibodies such as the breast cancer drug, Herceptin. The lives of individuals with diabetes, cancer, and many other disorders have been greatly improved because these molecules are now produced in pure form and in sufficient quantity for use as drugs. Furthermore, the United States has been the leader in this important new industry largely because the key, foundational discoveries were made here.

The power of these approaches, both as research tools and as drivers for industry, had become strikingly clear toward the end of the last century. Congress wisely supported substantial increases in the appropriation for the NIH between 1998 and 2003. Those funds made it possible to increase the capability

of the biomedical research enterprise in the United States. Established scientists were able to take their research in new directions and many talented young scientists launched productive careers. Sequencing of the human genome was completed and many important and unanticipated discoveries were made. Many of these exposed levels of complexity in biological systems that had not been anticipated. For example, RNA, a close cousin of DNA, was found to play new roles in regulating biological systems in important, but subtle, ways. The human body was found to include more microbial cells than human cells. Research has shown that these microbes contribute to both health and disease in newly discovered and unexpected ways.

Despite this impressive progress, there is still much to learn about human biology to enable the successful translation of what we do know into improvements in human health. NIH funded research has successfully reduced the mortality and morbidity of once acute and lethal conditions. This research continues to reduce the burden of heart disease, cancer, stroke (the three leading causes of death in the United States), as well as other diseases such as AIDS, Alzheimer's and diabetes. Robust and sustainable future funding for NIH will support continued biomedical research that saves lives, improves human health and provides the basic knowledge needed by private industry to develop the drugs and therapies we rely upon today and will continue to rely on in years to come.

Unfortunately, in the decade since these aforementioned funding increases, Congress has funded the NIH at essentially flat levels. Consequently, the purchasing power of these funds has significantly decreased relative to the biomedical research and development price index (BRDPI) - the industry's standard measurement for inflation. As members of this subcommittee heard from the NIH Director during last week's NIH appropriations hearing, the prices for equipment, supplies and staff have increased by 18% over the past decade. In constant dollars, the FY 2012 budget and the President's proposal for FY 2013 are \$4 billion lower than the peak year (FY 2003) and at the lowest level since FY

2001. The number of research project grants funded by NIH has declined every year since 2004. This decline is projected to continue in FY 2013 and beyond, when NIH will fund 3,100 fewer grants than in FY 2004. In FY2010, NIH made 8,765 new and competing renewal awards, 1,600 fewer than in FY 2003. Success rates have fallen more than 14 percentage points in the past decade and are projected to decline even further in FY 2012 and 2013. The NIH's investment in basic research has suffered as well.

When setting budgetary priorities, it is important to remember that technological innovation will be a key component for our future economic security and international competitiveness. More than 80% of the investment this Congress makes in the NIH leaves the Bethesda campus and funds academic researchers across the country. Each NIH grant – on average – supports approximately seven high-tech, high-paying jobs. These are precisely the type of jobs each member of this committee would want to have in their own district. These are also the kind of jobs that contribute to a 21st century, technology and information-based economy. Additionally, analysis of the economic impact of your NIH investments indicates that for every \$1 invested in the NIH, the economy derives a \$2 return. Finally, investment in research will continue to modernize our nation's research laboratories and facilities, spur innovation, and provide an immediate boost in employment for our nation's workforce.

The ASBMB understands the nation is facing difficult budgetary decisions, with federal spending reaching nearly unsustainable levels. Some programs will need to be cut, while some, such as biomedical research, cannot sustain continued, "stop-start" funding. Given this context, our membership appreciates that the President recognizes the importance of NIH support, if the US is to contribute to biomedical discovery at the cutting edge. Unfortunately, the president's proposal of flat funding will not support the amount of science that was supported last year.

With all of this in mind, ASBMB is calling on Congress to enact a 4.5% increase for FY13 to fund the NIH at a level of \$32.02 billion, with a goal of sustained increases to reach the programmatic need of the biomedical research enterprise of \$35 billion by FY2015. This increase would lessen the impact of the estimated 2.9% BRDPI calculation for inflation in FY2013, and provide for a modest 1.6% growth in the research budget.

Today, the US stands proud as the world's leader in biomedical research, but this will not continue to be true if we do not do all we can in support of the NIH. The American biomedical research enterprise plays a critical role in creating high-tech, high-paying jobs, helping to keep America a global leader in innovation and discovery, but it cannot do so without a reliable and robust federal investment.

Thank you Mr. Chairman, on behalf of the American Society for Biochemistry and Molecular Biology for this opportunity to share our views.