



## Department of Energy

Washington, DC 20585

December 4, 2002

Dr. Keith O. Hodgson  
Chair, Biological and Environmental  
Research Advisory Committee  
Department of Chemistry  
Stanford University  
Stanford, California 94305

Dear Dr. Hodgson:

For over 50 years, the Office of Biological and Environmental Research (BER) has successfully leveraged advances in the physical sciences to support highly productive technological advances in Nuclear Medicine. Notable examples of medically important BER supported advances include the development and refinement of nearly all clinical imaging devices for the radioisotopic diagnosis and characterization of disease, the evolution of positron emission tomography (PET) as today's most powerful tool for the staging of human cancers, and the development of many key radiopharmaceuticals that are used by nuclear medicine physicians today to characterize the biochemical and metabolic abnormalities produced by disease.

Advances in diagnosis and treatment in Nuclear Medicine are dependent on the synthesis of highly specific radiopharmaceuticals that target biological processes in normal and diseased tissues. The DOE, through BER supported research in universities and in the National Laboratories, occupies a critical and unique niche in the field of radiopharmaceutical research. The NIH relies on our basic research to enable them to initiate clinical trials. Industry has played only a minor role in radiopharmaceutical research and development. In view of this, the time has come to re-assess how BER research support might best stimulate directions in radiopharmaceutical research that are most likely to find translation into routine medical care in the coming decades.

To address this need, I am asking the Biological and Environmental Research Advisory Committee to create a subcommittee whose charge would be to evaluate how BER might optimize the scope of its Radiopharmaceutical Research Program. More specifically, the subcommittee should

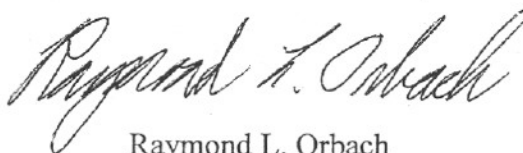
- 1) Assess future needs for radiopharmaceutical development in the era of "molecular medicine" and how BER can remain in the forefront of fundamental science in this field;
- 2) Evaluate the impact of the reported shortage in highly trained radiochemists and determine if BER has a role in short and long range approaches to alleviate this shortage;



- 3) Assess the complimentary role of agencies, which support fundamental radiochemical sciences (DOE, BER), clinical imaging (NIH), and industry in facilitating the emergence in innovative radiopharmaceuticals into clinical practice;
- 4) Identify current national impediments to the efficient entry of promising new compounds into clinical feasibility studies and suggest ways for facilitating this translation of basic research into clinical practice.

I look forward to your findings and recommendations. I would appreciate receiving a preliminary report by April 15, 2003.

Sincerely,

A handwritten signature in cursive script, reading "Raymond L. Orbach".

Raymond L. Orbach  
Director  
Office of Science