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DATE December 16, 1966

REPOSITORY PIONL

TO H. A. Kornberg

COLLECTION Prisoner Study

FROM W. H. Matchett *W. H. Matchett*

BOX No. N/A

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x

cc: WJ Clarke
RC Thompson
JD Berlin
File

SUBJECT Cytological Studies on Spermatogenesis

1. J. D. Berlin has a fair grasp of the work which is required to be done in collaboration with Dr. Heller and the Pacific Northwest Research Foundation.
 - a. Comparative studies of the ultrastructure of presently recognized types of spermatogonia designed to identify the precise number of types based on ~~a~~ ultrastructural criteria.
 - b. Ultrastructural characterization of the developmental stages in Leydig cell differentiation and retrogressive dedifferentiation.
 - c. Ultrastructural studies of the Sertoli cell designed to correlate structure and function at various stages in spermatogenesis. The influence of hormonal secretions on the structure and function of the Sertoli cell is also to be investigated.
2. J. D. Berlin has several ideas on how to proceed with each aspect of the work to be done.
 - a. Recognition of types of spermatogonia: requires morphological descriptions of spermatogonial types based on large numbers of samples and large number of micrographs (4000) at moderate magnifications (10-20,000 X). Berlin's opinion is that it would take an investigator and technician 1-2 years to perform this work. JDB is unaware of the existence of such a study in the published literature and regards it as a worthwhile project which should result in valuable publishable information.
 - b. Leydig cell differentiation: At least part of the Leydig cell study could be carried out using the same material as in "A" above. Other materials representing the retrogressive state would have to be examined independently. This work could be done simultaneously with the study of spermatogonial types.
 - c. The Sertoli Cell Studies: Part of this work could utilize the same materials used in A and B above. Almost certainly, however, various experimental treatments and various methods of sample preparation would be required for other parts.

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3. Although J. D. Berlin makes no claim of expertise in the area of spermatogenesis, he is confident of his ability to initiate the program and subsequently to locate and secure the services of expert(s) in this area. Berlin's opinion is that the program as we understand it would require at least 3 years of effort on the part of an investigator and a technician. While this amount of effort might seem excessive, it should be noted that Dr. Heller regards the program important enough to justify the establishment of a new electron microscope laboratory devoted exclusively to studies of spermatogenesis if he is unable to obtain "a highly motivated, highly interested and highly skilled collaborator". We presently have the equipment (with the exception of a cryostat) and space necessary for performance of the work. In order that our continuing projects not be displaced, Berlin recommends that if the work is carried out at BNW we secure the services of a second professional electron microscopist with competence in the area of fine structure of spermatogonia. In this regard, the post-doc mechanism should not be ignored.

4. Berlin is favorably disposed to directing and collaborating in this project. He feels that work of this type could lead to important new areas of interest for the BNW Biology Department as a whole. I concur in this belief and share his enthusiasm.

WHM:sas

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