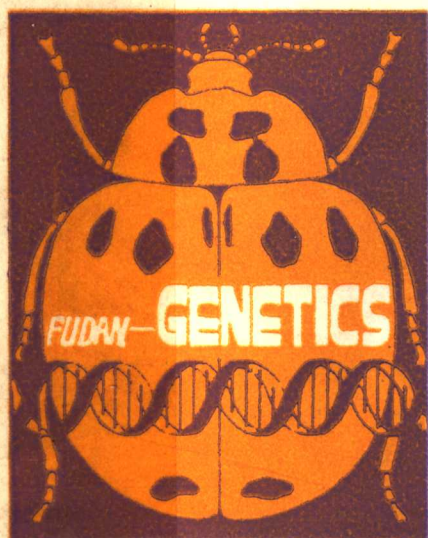


1978—1988年部份论文汇编



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复旦遗传学研究

复旦大学遗传学研究所编

复 旦 遗 传 学 研 究

1978—1988年部分论文汇编

复旦大学遗传学研究所 1988 年年报

复旦大学遗传学研究所
一九八九年九月上海

前 言

1977年“四人帮”被粉碎后，春回大地，复旦大学遗传学研究所得到了恢复和发展。通过调整充实，明确了本所的主要研究方向是：分子遗传学和遗传工程，兼顾基础研究和应用研究，科研和教学并重，促进高技术领域的探索，培养高质量的优秀人才。在有关部门的支持下，经过全所人员的共同努力，在研究、教育和实验室建设等方面都取得了令人瞩目的进展。

十年来(1978—1988)，我们共接受国家高技术课题10项，国家“六五”及“七五”科技攻关课题18项，国家自然科学基金16项，中央其他部委科技任务10项，省市科技任务15项，企业委托科技任务20项。1985年经国家批准又拨专款在我校建立了遗传工程重点实验室，并设立基金对外实行开放……以上累计获得经费近一千万元。

十年来，我所共发表学术论文及综述约500余篇，其中发表在国外学术刊物和国内一级刊物上的论文就达200多篇。经有关部门组织鉴定的科技成果50余项，获得国家及省市级以上奖励的有20项。出版专著15本，译著32本。论文、专著和科技成果的作者、研究者共95人，占本所教学、科研人员总数的100%。

我们把十年来本所研究工作的主要进展，摘要汇编成册，目的是为了促进国内外学术交流，也作为向支持和关心我们工作的部门和同志汇报并表示感谢，希望继续得到他们的支持和帮助，听取批评和指正，把我所的工作推向前进。

Preface

The smash of the "Gang of Four"—1977 brought sunshine back to China, and revitalization and development to the Institute of Genetics. After taking a series of measures of readjustment and strengthening, we made clear that the main research field should be: molecular genetics, genetic engineering, taking account of both basic research and applied sciences, emphasizing both research and teaching activities, promoting the exploration of the field of high technology, as well as training highly qualified scientists. Supported and encouraged by departments concerned, the staff of the Institute of Genetics worked hard and achieved remarkable progress in scientific research, education and updating of laboratories.

During the past 10 years (1978—1988) we were entrusted with 10 high-technology research projects by the state, 18 projects from the 6th and 7th Five-year Plan of Science and Technology Research, 16 projects from the National Foundation of Natural Sciences, 10 projects from the Central government's various ministries and commissions, 15 projects from departments at provincial and municipal levels, as well as 20 projects given by enterprises. Funds were specially allocated in 1985 to establish a key genetic engineering laboratory with grants that can be applied to by the public. The total funds allocated to this Institute amounted to about ten million yuan (RMB).

Over the past ten years we have published 500 papers and reviews, 200 were accepted by international scientific journals as well as highly esteemed publication in the country. 50 research achievements were verified by specially organized appraisal meetings sponsored by responsible departments. 20 were given awards by the state or provincial and municipal government institutions, 15 monographs and 32 translations were published. The 95 authors of the research papers, monographs and translations accounted for 100 per cent of the whole teaching and research stuff.

The purpose of publishing this Collection of abstracts presenting our main progress in the past ten years is to encourage academic exchanges with colleagues both at home and abroad, and also to show our sincere appreciation to the responsible departments and individuals who supported and cared for our work. We look forward to their continued support and assistance and anticipate their most valuable suggestions with the view of carrying our work to a new level.

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猕猴(*Macaca mulatta*)睾丸经X射线一次性照射与分次累积照射的组织学观察

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本实验共用雄性猕猴(*Macaca mulatta*)12只, 分成三组: (1) 对照组; (2) X射线200仑一次急性照射后第9天取出一侧睾丸, 作为一次急性照射组; (3) 把200仑总剂量分成10份, 每隔24小时照射20仑, 最后一次照射后的第9天取出一侧睾丸, 作为分次累积照射组。

一次照射组和分次照射组中A型精原细胞和B型精原细胞数量都明显低于对照组。一次照射情况下, 该两类精原细胞各占对照的65.43%和33.09%; 分次照射时各占对照的5.57%和0%; 畸变细胞百分率在分次照射组中要比一次照射组高2.3倍。

一次照射和分次照射后精母细胞数量都下降, 分别占对照组的84.27%和6.92%, 但只有分次照射组与对照组的差异是显著的($P < 0.001$)。畸变精母细胞在分次照射组中高达50.21%, 并分布在67.5%的精细管切面内; 一次照射后, 畸变精母细胞较少, 只有0.78%。

随着精细管切面直径的收缩, 支持细胞数量有所增加, 尤以分次照射组为甚, 在统计学上有显著意义。

上述结果表明, 分次累积照射对生殖细胞的损伤效应比一次急性照射严重, 可能是射线对生殖细胞直接致损和抑制细胞分裂两者综合作用的结果, 至于两类精原细胞的受损程度和数量消减的程度都不一致, 可能是辐射敏感性差异的反映。

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绿脓杆菌对几种抗生素的耐药性突变研究

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本文研究了绿脓杆菌 *Pseudomonas aeruginosa* 对一些抗生素的耐药变异类型, 发现对羧苄青霉素耐药变异类型多数稳定, 对庆大霉素耐药变异类型多数不稳定, 而对多粘菌素B及多粘菌素E耐药变异还没有看到稳定类型。通过庆大霉素耐药性转移及吡啶黄处理消除庆大霉素耐药性的试验, 初步证明本实验中得到的决定庆大霉素耐药性的遗传因子位于染色体上, 耐药菌的噬菌体感染特性没有改变。

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