

# Study on Experimental Cataract Model Induced by Selenite

Pu Zumao, Ji Hui<sup>1</sup>, Gong Guoqing<sup>1</sup>, Zhou Shu<sup>1</sup>, Sun Xiaoming<sup>1</sup>, Li Naisan<sup>1</sup>, Xu Fuben<sup>1</sup>

*Electron Microscope Laboratory; <sup>1</sup>Department of Pharmacology, China Pharmaceutical University, Nanjing 210009*

**Abstract** The selenite cataract model was made by means of subcutaneous injection at a single dose of 0.26 ml/kg to twelve-day old rats. The model was evaluated by slit lamp cataract grading, scanning electron microscopy and by biochemical measurement of the contents of MDA, insoluble protein and high molecular weight protein in lenses. The results showed that the successful rate of the model was higher than 90%, and suggested that the model could be used as an assessment of the prevention and treatment effects of drugs on various cataracts.

**Key words** Cataract; Selenite; Slit lamp; Cataract grading; Scanning Electron Microscopy (SEM)

## 雌酚酮合成新工艺研究通过鉴定

雌酚酮是合成雌激素类与 19-去甲基甾体化合物的关键中间体。从雌酚酮合成的炔雌醇及其醚类,雌二醇及其酯类或雌三醇及其衍生物分别是妇女口服避孕药或更年期激素补充疗法的主要药物。雌酚酮合成新工艺研究由中国药科大学、上海医科大学和湖南药业公司联合攻关,由中国药科大学廖清江教授主持。合成路线为:从雄甾-1,4-二烯-3,17-二酮(ADD)经缩酮化、芳构化与水解三步反应制得,雌酚酮总收率达 45%~50%,与国内现用 11 步反应的合成工艺相比,生产周期缩短,操作简便。该工艺不使用薯蓣皂甙元为原料,可缓和国内薯蓣皂素的供需矛盾,并可实现国产甾体资源使用的合理分流。

在中试规模中,雌酚酮的总收率、主要原料的消耗等方面都达到“八五”攻关考核目标,产品质量完全符合国内同品种质量标准,且能达到美国药典 23 版的要求,优于国内现行工艺产品的质量。

该项目已于 1995 年 12 月通过国家医药管理局组织的科技成果鉴定。