

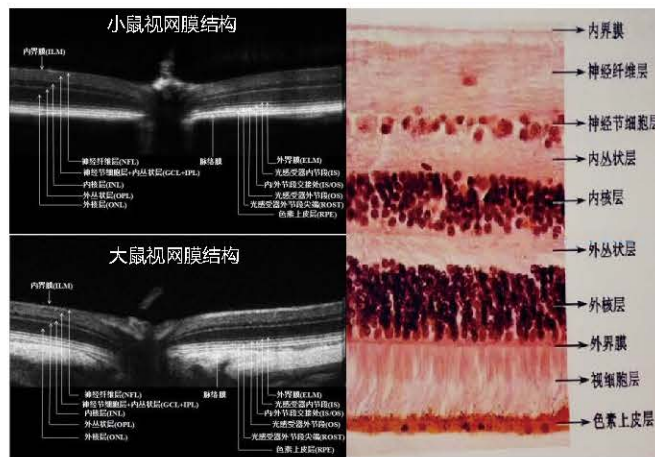
名称：4D-iSOCT 眼科超显微成像系统  
型号：ISOCT

## 使用范围

用于眼科动物模型的疾病筛查、病理学、药理学、药效学等方面研究。适用于各项眼科疾病、糖尿病、动脉硬化、高血压、干细胞等研究中细胞级水平的定量及定性分析。可对活体动物神经细胞，神经纤维层、血管等微观结构改变进行早期、实时及长期的无损伤评估。

## 测量范围

斑马鱼、大鼠、小鼠、兔子、小型猪、鸡、狗、猴子等。

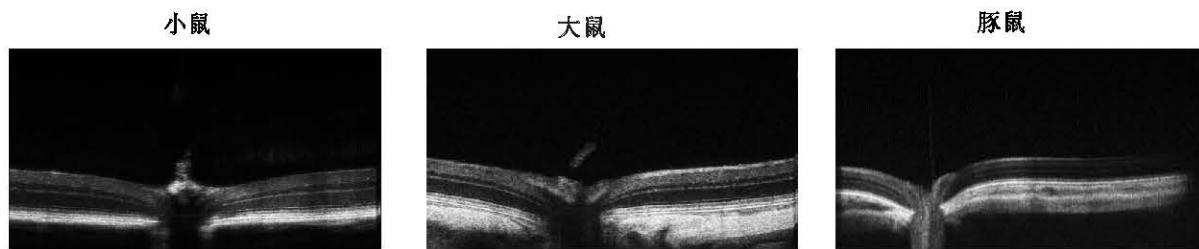


## 优势

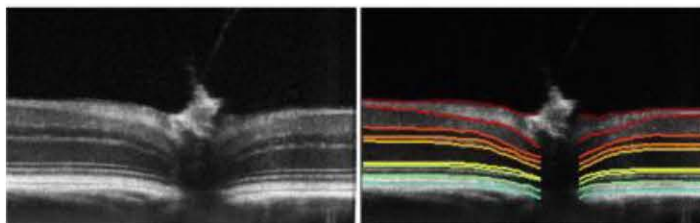
活体无损伤测试，自身对照为您提供最为严谨的数据支撑；  
 优于组织切片完美的10层结构；  
 高分辨率眼底成像:轴向分辨1.6um，横向分辨率4um；  
 超高速: 140KHz，业界最快；  
 独立的视网膜分层分析软件。

# 功能介绍

## 1、三维快速实时扫描、运动配准、平衡去噪，输出图像更加平滑、层次更加清晰

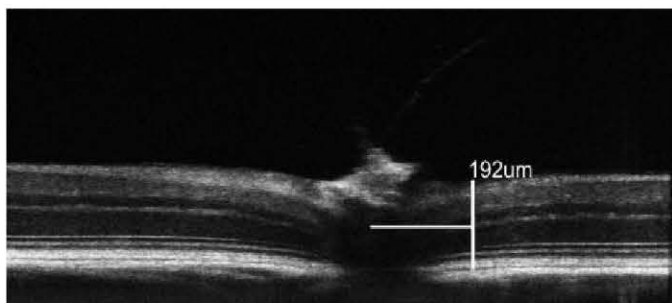


## 2、图像自动分层



name	thickness(um)
nfl	33.55
gcl+ipl	42.3
inl	20.15
opl	13.4
onl	46.2
elm	7.6
isos	25.05
rpe	20.85
retina	209.05

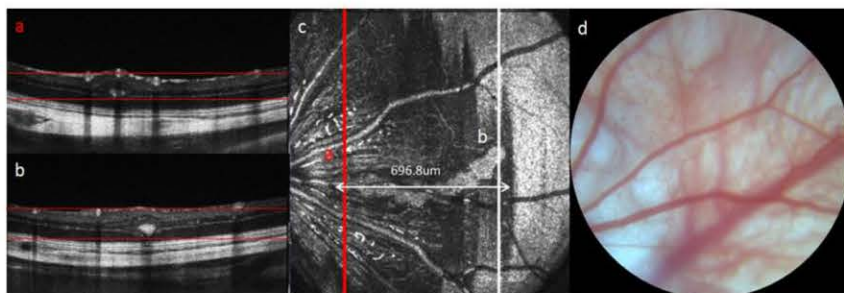
## 3、点对点测量



图像添加标尺，引入参考线  
实现固定位置点对点测量。

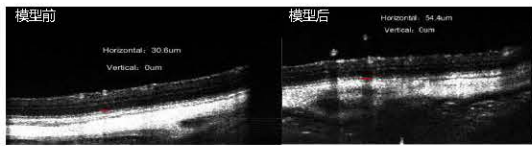
固定位置厚度测量及观察

## 4、OCT断层和眼底彩照协同对照

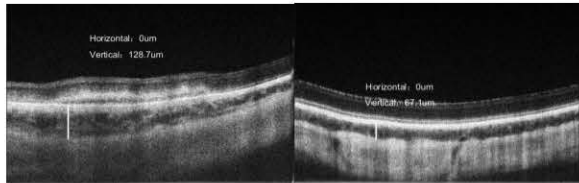


三维扫描模式观察视网膜  
内病变

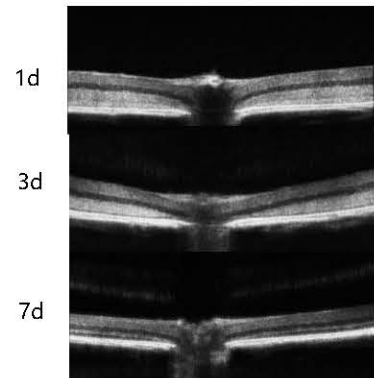
# 疾病模型展示



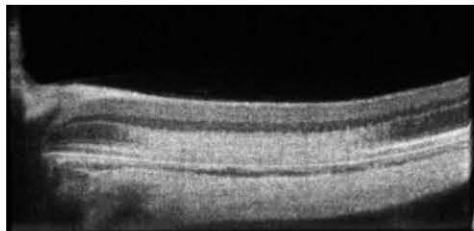
高脂模型



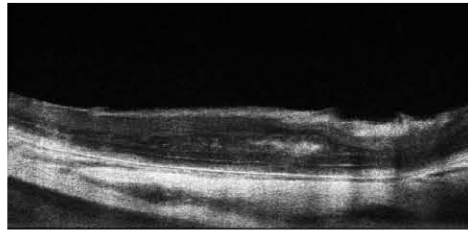
中心性浆液性脉络膜视网膜病变模型



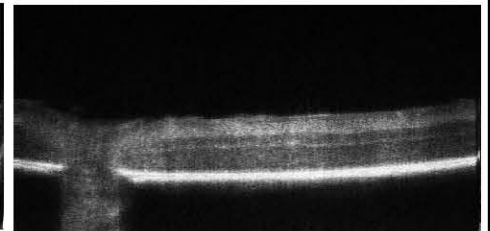
色素变性模型



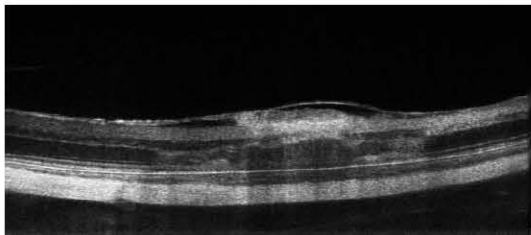
光损伤模型



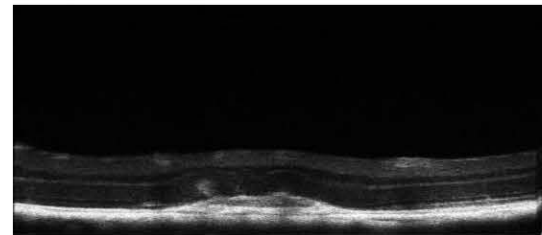
视网膜下腔注射



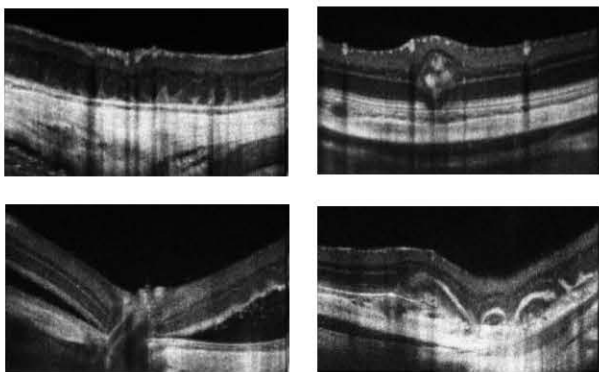
早产模型



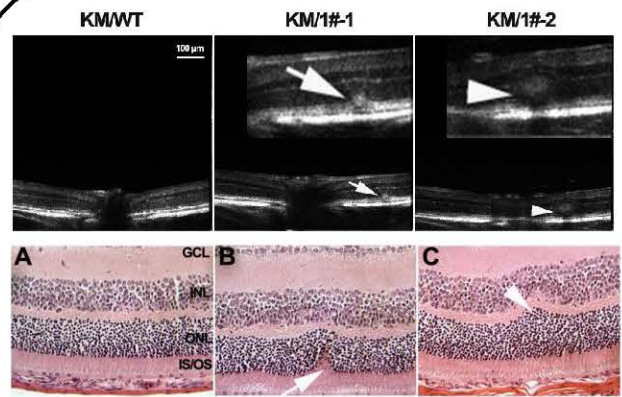
静脉阻塞模型



脉络膜新生血管模型

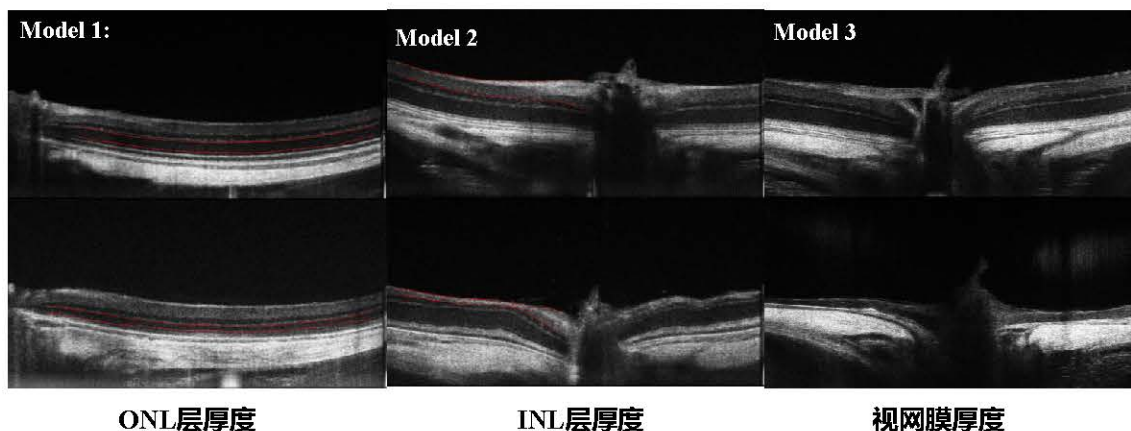


眼底异常模型



先天性视网膜皱褶模型

## 不同造模时间对于青光眼模型鼠OCT形态学的变化



### 实例

#### 应用 OCT对诱导视网膜损伤 C57 模型的检测评估

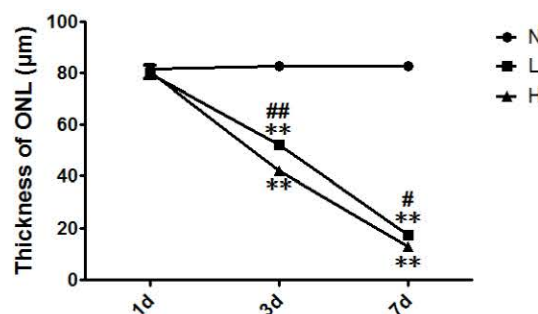
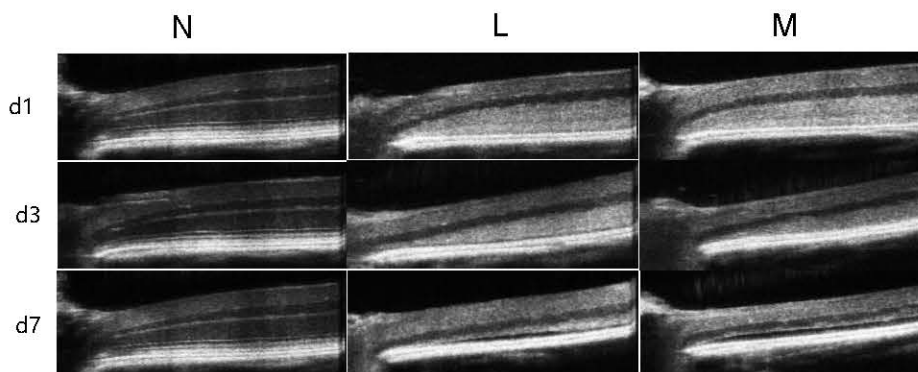
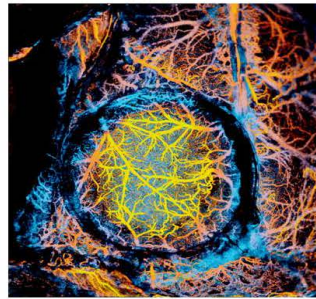
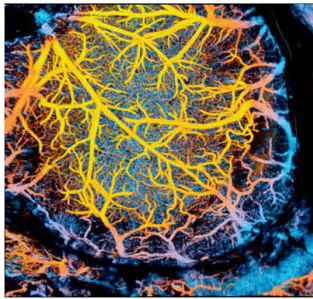
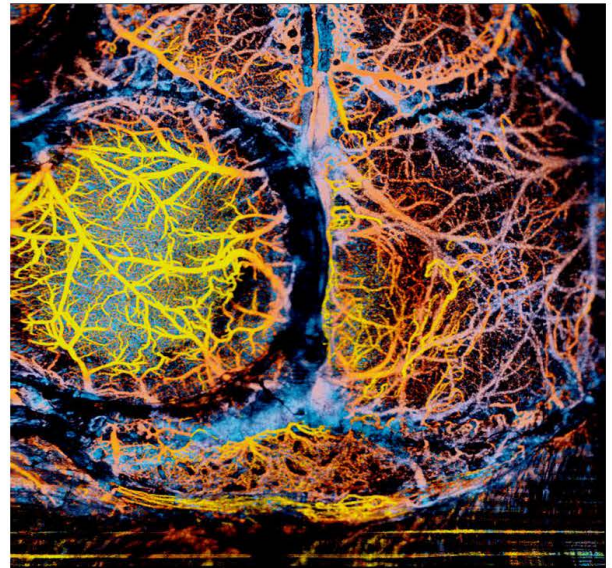
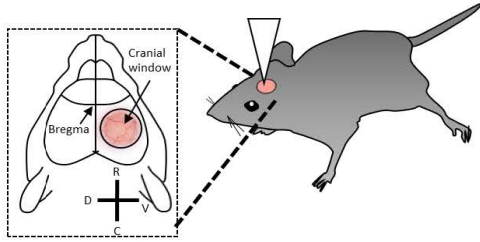


图1正常组(N)、MNU低剂量组(L)、MNU高剂量(H)组实验后第1天, 3天, 7天视网膜OCT图像(A)及视网膜外核层厚度统计图(B)。ON:视盘; ONL:外核层; \*\* $P < 0.01$ ; vs N; # $P < 0.05$ , ## $P < 0.01$ ; vs H。

运用加拿大光电公司专用OCT厚度测量软件测量结果显示,造模后1天MNU低剂量组、高剂量组均出现外核层(ONL)呈高亮影,与正常组ONL的低密度黑影呈明显对比,但厚度未出现明显改变(正常组、MNU低剂量组、高剂量组分别为 $81.40 \pm 0.29 \mu\text{m}$ ,  $80.73 \pm 0.90 \mu\text{m}$ ,  $80.40 \pm 2.62 \mu\text{m}$ ,  $F=0.771$ , 两两间 $P > 0.05$ );造模后3天ONL开始出现变薄, MNU低剂量组ONL厚度较高剂量组的厚(正常组、MNU低剂量组、高剂量组分别为 $82.47 \pm 0.85 \mu\text{m}$ ,  $52.27 \pm 0.39 \mu\text{m}$ ,  $42.03 \pm 0.99 \mu\text{m}$ ,  $F < 0.000$ , 两两间 $P < 0.01$ ),直到7天时ONL几乎消失, ( $82.77 \pm 0.52 \mu\text{m}$ ,  $17.367 \pm 0.44 \mu\text{m}$ ,  $12.87 \pm 0.77 \mu\text{m}$ ) (附图1)

# 4D-i sOCT 眼科超显微成像系统-微血管成像系统

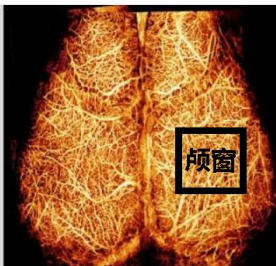
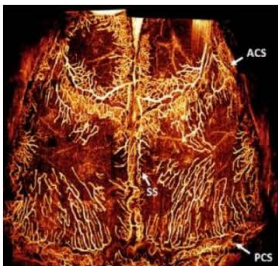
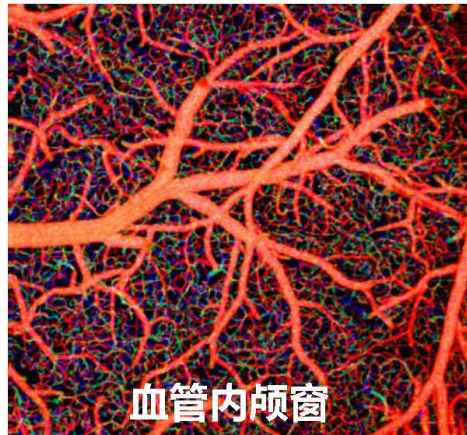
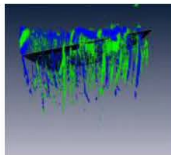
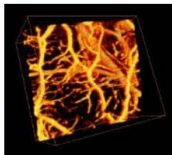
## 活体动物大脑微血管血管成像



头骨完好无损的老鼠大脑

老鼠大脑血管3 d

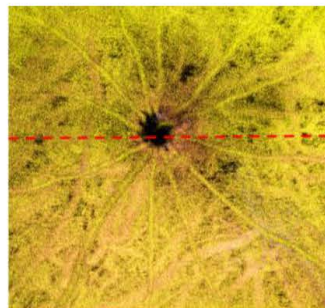
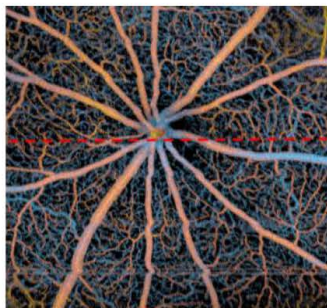
鼠脑穿透血管流动速度3D



## 视网膜不同层次微血管成像

视网膜层

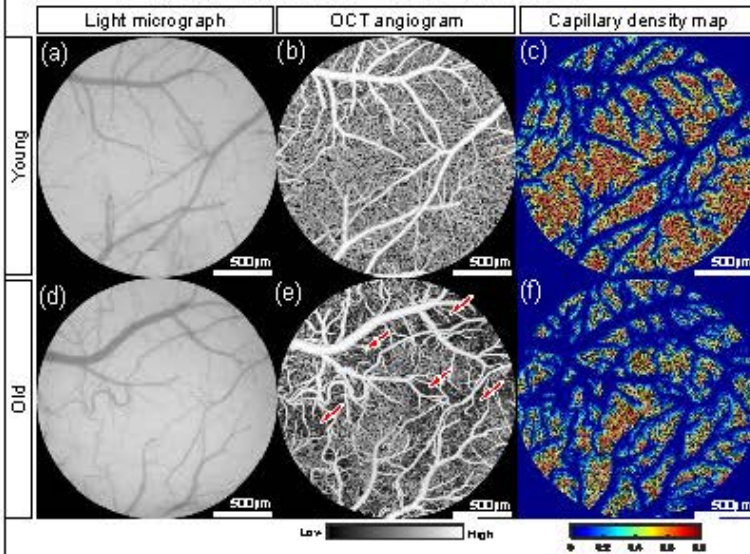
脉络膜层



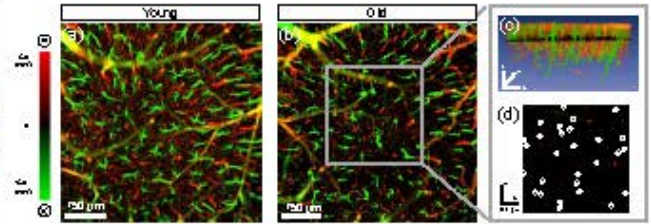
# 实例

## 血管老化与阿尔茨海默病研究

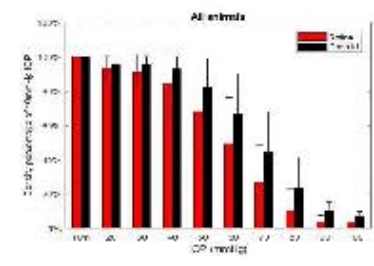
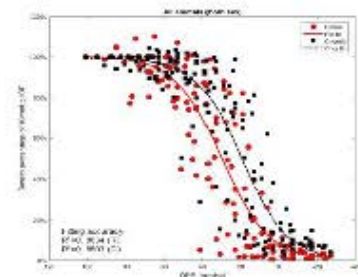
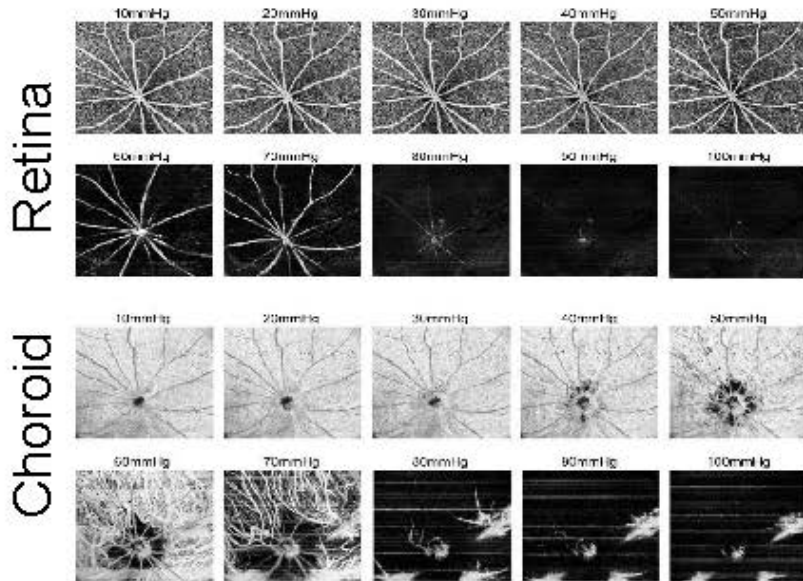
年龄相关性毛细血管密度损失



## 年龄相关性血流变化



## 大鼠青光眼高眼压研究



## 小鼠缺血性脑卒研究

