

PC12 Cells with neurite outgrowth  
Image courtesy of [Global Medical Discovery](#)

# Pheochromocytoma (PC12) Cells

Friends

## About

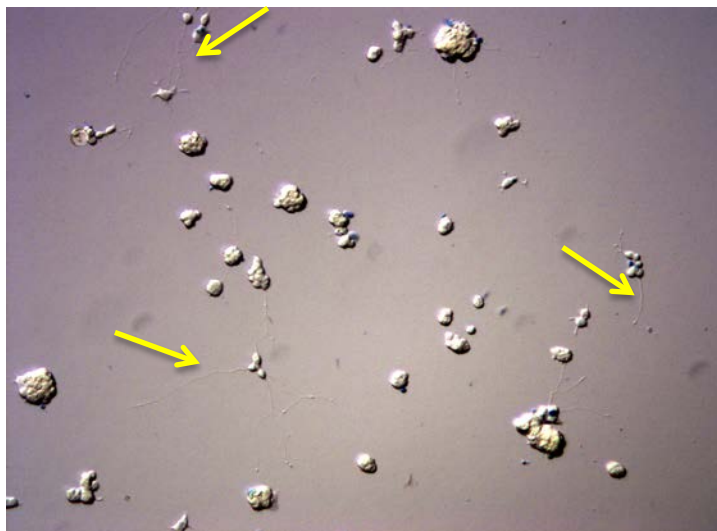
PC12 cells are used by research labs at Duke University to model the effects of neurotoxic chemicals such as silver nanoparticles, flame retardants, and organophosphorus pesticides like chlorpyrifos and diazinon.

### Frequently Asked Questions

1. Why are you such a great model?
  - Continuous cell divisions (unless treated to stop)
  - Differentiate into neurons in response to Nerve Growth Factor (a protein); this allows scientists to select characteristics of cells based on the study
  - Can be used to detect disruptions in the cell cycle, a likely target of neurotoxic chemicals
2. What types of research are you used for?
  - Toxicology
  - Neurodevelopment
  - Neuronal physiology and biochemistry
3. What does PC stand for?
  - Pheochromocytoma – a type of tumor found in adrenal rat cells; these cells act as precursors to neurons

### PC12 Cells with neurites

(zoom in for a closer look)



### Living



**Durham, North Carolina**  
Current City

### Basic Information

Habitat: Rat adrenal glands  
Studies: *in Vitro* (cellular)

### Employment



Dr. Ted Slotkin's lab

### Contact Information

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Neurites are any projections from a neuron cell body (usually axons or dendrites). In this image, taken in the Slotkin lab at Duke, you are looking at neurite outgrowth from a PC12 cell under the influence of Nerve Growth Factor (NGF), which is a protein that is used to help neuron cells survive and differentiate.