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## Review

### **A brief update on physical and optical disector applications and sectioning-staining methods in neuroscience**

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#### **Highlights**

- Optical and physical disector methods are efficient for neuron counting.
- Systematic random sampling strategies are required for accurate number estimation.
- The numerical density of neurons or particles is related to volumetric changes.
- Cresyl violet staining can be used as a sound method for neuron number estimation
- NeuN and cresyl violet demonstrate a correlation in the quantitative cell analysis

#### **Abstract**

A quantitative description of a three-dimensional (3D) object based on two-dimensional (2D) images can be made using stereological methods. These methods

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