

Primary visual cortex

The primary visual cortex is Brodmann area 17, commonly called V1 (visual one).

V1 is a canonical [cortical area](#) with clearly delineated architectonic boundaries and a continuous topographic representation of the visual hemifield.

V1 is often also called striate cortex because it can be identified by a large stripe of myelin, the Stria of Gennari. Visually driven regions outside V1 are called extrastriate cortex. There are many extrastriate regions, and these are specialized for different visual tasks, such as visuospatial processing, color discrimination, and motion perception. The name derives from the overlying occipital bone, which is named from the Latin ob, behind, and caput, the head.

Wig et al. detected the V1 border with V2. By contrast, previously-published clustering methods that focus on global similarity in connectivity reveal a supra-areal organization that emphasizes eccentricity bands spanning V1 and its neighboring extrastriate areas; i.e. in the latter analysis, the V1 border is not evident. Thus the focus on local connectivity gradients emphasizes qualitatively different features of cortical organization than are captured by global similarity measures. What is intriguing to consider is that each kind of information might be telling us something unique about cortical organization. Global similarity measures may be detecting map clusters and other supra-areal arrangements that reflect a fundamental level of organization ¹⁾.

Location

Human V1 is located on the medial side of the [occipital lobe](#) within the [Calcarine fissure](#); the full extent of V1 often continues onto the posterior pole of the occipital lobe.

Pathology

Bilateral lesions of the [occipital lobe](#) can lead to cortical blindness (See Anton's syndrome).

¹⁾

Buckner RL, Yeo BT. Borders, map clusters, and supra-areal organization in visual cortex. *Neuroimage*. 2014 Jun;93 Pt 2:292-7. doi: 10.1016/j.neuroimage.2013.12.036. Epub 2013 Dec 27. Review. PubMed PMID: 24374078.

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