Reply to Yamada: The extreme capsule is the ventral pathway for language

In his letter (1), Yamada claims that, in our article (2), we erroneously allocated the ventral pathway for language processing to the extreme capsule (EmC) rather than the external capsule (EC). He argues that, in his data (3), the direction of fibers running in the EmC "is not anteroposterior but rather transverse or superoinferior in the transaxial plane." Instead, the EC has fibers running in the "anteroposterior direction," thereby providing the temporo-frontal connection of interest.

Although one might argue that our averaged group data of 33 healthy individuals [measured at a 3T scanner with 61 diffusion-encoding directions (2)] are superior to the single-subject data by Yamada *et al.* [measured at a 1.5T scanner using 15 diffusion-encoding directions (3)], contrary to Yamada, we think that current diffusion tensor imaging (DTI) technology lacks the spatial resolution to unambiguously distinguish between the external and extreme capsules by means of DTI data (i.e., fractional anisotropy maps) alone.

However, we know from tracing studies in monkeys that the external capsule is strictly a corticostriatal projection system connecting many cortical areas with the putamen, caudate nucleus, and claustrum (5). The extreme capsule (4–6), in contrast, is a long association fiber tract linking the temporal with the prefrontal lobe supported by, apart from nonhuman primate data and our findings, an excellent recent DTI study in humans by Frey *et al.* (7).

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