

comprehensively processes the whole motion information of objects by integrating the information of local motion [36]. In addition, the area MT is greatly implicated in precise spatiotemporal encoding with respect to the timing and interval of visual stimuli [37], [38], [39], [40]. Although the area MT has been known as a level in hierarchy of visual processing, since it has recently reported that it is not only the hierarchy of visual pathways and it could be affected by auditory stimulation [34], [41], [42], [43], the reports suggest that the area MT is implicated in multisensory processing. Also, the area MT has the fastest response latencies in visual response in macaque cerebral cortex and TPO corresponding to the STS, which has slower response latencies relative to the area MT [44]. Along with the results of PSS in the present study, we suggest that there exist the difference between the multisensory characteristics of visual motion information and non-visual motion information, and especially the area MT may contribute to the audiovisual temporal processing with motion information.

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