

Supplementary Table 1. Overview of the brain activation foci in the ventral and dorsal visual pathways reported in studies that used a sensory substitution device (SSD) in blindfolded sighted subjects.

Authors / Task	Contrast	Dorsal stream		Ventral stream	
		Anatomical region Brodmann area (BA)	X, Y, Z {mm}	Anatomical region Brodmann area	X, Y, Z {mm}
Arno et al. 2001 Pattern recognition	Pattern > Noise	Right Superior Parietal Lobule (BA7)	22; -74; 56	Right Middle Temporal Gyrus (BA37)	60; -56; -2
		Right Inferior Parietal Lobule (BA40) Left Inferior Parietal Lobule (BA40) (*)	58; -40; 36 -36; -44; 42		
	Pattern > Rest	Right Inferior Parietal Lobule (BA40) Left Inferior Parietal Lobule (BA40) (*)	56; -42; 44 -40; -42; 42	Left Fusiform Gyrus (BA37)	-56; -48; -18
Ptito et al. 2005 Orientation discrimination	Orientation > Rest	Right Inferior Parietal Lobule (BA40)	69; -33; 28	Right Inferior Temporal Gyrus (BA20)	42; -50; -23
Renier et al. 2005 Depth perception	Depth > Size	Left Precuneus (BA7)	-16; -78; 44	Left Fusiform Gyrus (BA37)	-52; -60; -14
		Left Inferior Parietal Lobule / Precuneus / Superior Occipital Gyrus (BA19)	-38; -82; 38	Right Fusiform Gyrus (BA37)	58; -52; -16
	Form > Noise	Left Precuneus (BA7)	-8; -66; 60	-	
		Left Inferior Parietal Lobule (BA40)	-38 ; -36 ; 52	-	
Poirier et al. 2007 Figures recognition	Element >Noise	Right Precuneus/Superior Occipital Gyrus (BA19) Left Superior Occipital Gyrus (BA19)	34; -80; 38 -30; -72; 28	Right Inferior Temporal Gyrus (BA20)	54; -6; -32
		Right Superior Parietal Lobule/Precuneus (BA7) Left Superior Parietal Lobule/Precuneus (BA7)	16; -78; 48 -24; -76; 50	Left Inferior Temporal Gyrus (BA20)	-32; -36; -18
		Right Inferior Parietal Lobule (BA40)	38; -56; 38	Left Fusiform Gyrus (BA37)	-52; -56; -16
		Left Inferior Parietal Lobule (BA40)	-48; -40; 46	Right Fusiform Gyrus –Inferior Temporal Gyrus (BA37-20)	62; -42; -18
	Pattern >Noise	Right Precuneus/Superior Occipital Gyrus (BA19)	34; -82; 38	Right Middle Temporal Gyrus (BA37-21-22)	54; -62; 6
		Left Superior Occipital Gyrus / Precuneus (BA19-7)	-26; -80; 44	Right Fusiform Gyrus (BA37)	62; -46; -16
		Right Superior Parietal Lobule/Precuneus (BA7)	20; -74; 58	Left Fusiform Gyrus (BA37)	-50; -60; -14
		Left Superior Parietal Lobule/Precuneus (BA7)	-12; -72; 58		

		Right Inferior Parietal Lobule (BA40)	62; -44; 36		
		Left Inferior Parietal Lobule (BA40)	-30; -42; 38		
Amedi et al. 2007 Object recognition	SSD = Tactile Object > Sensory control	Intraparietal sulcus and Precuneus	(Not available)	Right Lateral occipital Complex /Inferior Temporal Gyrus (BA 37)	46; -58; -10
				Left Lateral occipital Complex /Inferior Temporal Gyrus (BA 37)	-48; -59; -9
Kupers et al. 2010 Virtual route recognition	Route > Random dots	Right Inferior Parietal Lobule (BA40)	45; -48; 51	Right Middle Temporal Gyrus (BA21)	57; -45; -9
		Left Inferior Parietal Lobule (BA40)	-39; -48; 42		
		Right Superior Parietal Lobule (BA7)	36; -60; 54	Right Inferior Temporal Gyrus (BA37)	54; -54; -12
		Left Superior Parietal Lobule (BA7)	-18; -69; 57		
		Right Precuneus (BA7)	3; -72; 45		
		Right Precuneus (BA7)	9; -72; 39		
Matteau et al. 2010 Motion discrimination	Coherent motion > Rest	Left Middle Temporal Gyrus (hMT+ complex, BA37)	-36; -56; 10		
		Left Inferior Parietal Lobule (BA7-40)	-32; -40; 38		
		Right Inferior Parietal Lobule (BA7-40)	30; -38; 42		
		Right Superior Parietal Lobule (BA7)	36; -56; 50		

(*) Activated during the second PET session in the study of Arno et al., 2001 (most of these cortical areas were activated during the two PET sessions that took place before and after intensive training to the SSD use). Noise refers to noise sounds that were made unrecognizable. Coordinates (X,Y,Z {mm}) are with reference to the anterior commissure in MNI / Talairach and Tournoux space [26].