Table 1. Axonal action potential properties from recent studies of cell types in three major brain regions

Brain area	Cell type	Tissue species	Animal age	Temp (°C)	Axon myelination status	Conduction velocity (m/s)	Est. AP initiation site (μm from soma)	Recording configuration	Reference
Neocortex	Layer 5 pyr	Rat	P26-30	35	?	Antidromic 0.3-0.4	≥30	Dual whole-cell soma and axon initial segment	Stuart et al., 1997
	Layer 5 pyr	Rat	P14-24	23	?	?	≥30	Axon initial segment patches, whole-cell soma	Colbert and Pan, 2002
	Layer 5 pyr	Rat	P21-35	34	Starting at ~40 um	Orthodromic ~0.4	~35	Whole-cell soma, voltage sensitive dyes	Palmer Stuart, 2006
	Layer 5 pyr	Rat	P12-60	34	Starting at ~50 um	Orthodromic 2.9	~38	Dual whole-cell soma and axon bleb	Kole et al., 2007
	Layer 5 pyr	Ferret	P49-56	36.5	Starting at ~200 um	Orthodromic 0.83 Antidromic 0.77	40–55	Dual whole-cell soma and axon bleb	Shu et al., 2007b
Cerebellum	Purkinje	Rat	P13-31	22	Yes	?	≥7	Dual whole-cell soma and axon initial segment	Stuart and Hausser, 1994
	Purkinje	Mouse	P15-29	33	Yes	Orthodromic 1	~30	Dual whole-cell soma and axon loose-seal	Khaliq and Raman, 2006
	Purkinje	Rat	P18-26	34	Starting at ~20 um	Orthodromic 0.77 Antidromic 0.56	75±11	Dual soma attached recording and axon loose-seal	Clark et al., 2005
Hippocampus	CA3 pyr	Rat	P18-22	25	Not within 1 mm	Orthodromic 0.3	35–40	Dual whole-cell soma and axon loose-seal	Meeks and Mennerick, 2007
	CA3 pyr	Rat	P21-84	23	Unmyelinated	Estimated ~0.23	NA	Antidromic stimulation, CA3 unit	Soleng et al., 2003a
	Dentate granule	Rat	P17-23	25	Not within 1 mm	Orthodromic 0.25	~40	Dual whole-cell soma and axon loose-seal	Kress et al., 2007
	Dentate granule	Rat	P30-50	33	?	Antidromic 0.67	?	Antidromic population spike	Langdon et al., 1993
	Subicular pyr	Rat	P14-56	24	Yes	?	30–60	Dual whole-cell soma and axon initial segment	Colbert and Johnston 1996