

TABLE 1 | Main anatomical and electrophysiological characteristics of striatal GABAergic interneurons.

	Markers	Morphology	Input Res	RMP	Spont Act	Connectivity with SPNs	Connectivity with other interneurons
FSI	PV	At least two subtypes, medium to large soma, 5–8 principal dendrites higher order varicose dendrites forming 200–300 μm diameter field, very dense, highly branched axon, 1.5–2 times wider than the dendritic field	50–100 $\text{M}\Omega$	\sim –80 mV	No	High \sim 80%	FSI (electrotonic coupling), NGF synaptic
LTS	NPY/NOS/SOM	Medium sized soma, 3–5 aspiny dendrites, with little branching, very long sparsely branching axon extending 600–1000 μm from soma forming infrequent bouquets with varicosities	$>$ 600 $\text{M}\Omega$	\sim –56 mV	Yes	low \sim 20%	CINs
CR	CR	Multiple types with variable morphology, small to medium sized soma, some with very few spiny dendrites, other multipolar with smooth aspiny dendrites	?	?	?	?	?
THIN	TH	One (Type I) principal and three less frequent subtypes, all with medium sized somata, Type I emits 2–4 primary dendrites, higher order dendrites sparsely spinous, modest, dense, highly branched axon studded with varicosities	350–1,500 $\text{M}\Omega$	\sim –50 mV	Yes	low \sim 20% Reciprocal	LTS, CINs
NFG	NPY	Medium sized soma, 5–9 aspiny primary dendrites, very dense and highly compact higher order dendritic field, very dense axonal arborization extending throughout and beyond dendritic field	\sim 140 $\text{M}\Omega$	\sim –85 mV	No	High \sim 80%	NGF (electrotonic coupling), FAI, CINs
FAI	Htr3a	Medium sized soma, 3–5 aspiny varicose dendrites, relatively dense axonal field	\sim 362 $\text{M}\Omega$	\sim –65 mV	No	High \sim 50%	?
SABI	Htr3a	Medium sized soma, 3–5 aspiny varicose dendrites, sparsely spiny, sparse axonal arborization	$>$ 600 $\text{M}\Omega$	\sim –50 mV	Yes	No (\sim 4%)	?

Abbreviations: CaCC, calcium activated chloride channel; ChAT, choline acetyltransferase; CIN, cholinergic interneuron; CR, calretinin; DAT, dopamine transporter; dSPN, direct pathway spiny projection neuron; FAI, fast adapting interneuron; FSI, fast spiking interneuron; iSPN, indirect pathway spiny projection neuron; Lhx7, LIM homeobox protein 7; LTS, low threshold spike; NGF, neurogliaform; NOS, nitric oxide synthase; NPY, neuropeptide Y; PfN, parafascicular nucleus of the thalamus; PV, parvalbumin; RMP, resting membrane potential; SABI, spontaneously active bursty interneuron; Scgn, secretagoin; SOM, somatostatin; TH, tyrosine hydroxylase; TTX, tetrodotoxin; VMAT2, vesicular monoamine transporter 2.