



The exquisitely selective connectivity of cortical interneuron subtypes

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Until recently cortical interneuron connectivity has been grouped in accordance with the four major cardinal classes: Parvalbumin, Somatostatin, VIP and Lamp5. This has led to the notion that there exists generalized patterns of canonical connectivity associated with specific cortical types. Recently molecular strategies to target ever more selective subpopulations of interneurons, as well as the principal pyramidal populations have arisen. This has provided the means to examine the connectivity of specific subclasses both in adults and during development. In my talk I will discuss work from my group in collaboration with Paola Arlotta demonstrating that the selectivity of connections between interneuron subtypes and their obligate pyramidal cell partners is considerably more refined than presently recognized. These relationships are established during development through early selective interactions between interneurons and pyramidal cell subtypes. Together these findings suggest the connectivity of cortical circuits is far more selective than presently recognized.