

## **TERMS ASSOCIATED WITH THE CCTB1 CLASS**

### **Astrocyte Waves and Neural Signaling**

Astrocytes, a form of glial cell, interconnect with other astrocytes throughout the entire Central Nervous System (CNS). They surround almost all CNS synapses and influence neural signaling. Astrocytes will often respond to various stimuli by sending waves of calcium within the Astrocyte matrix. These calcium waves can stimulate the release of substances that help to regulate, modify or integrate neural signaling.

### **The Neurovascular Unit**

The Neurovascular Unit (NVU) controls blood flow throughout the Central Nervous System (CNS). The NVU is comprised of four parts:

1. synapse
2. portions of Astrocytes (called end feet) surrounding the synapse
3. local blood capillary and its Blood-Brain Barrier components
4. portions of Astrocyte end feet surrounding the local capillary.

Astrocytes respond to synapse activity by sending waves of calcium toward their local capillaries. This initiates a sequence of events that regulates the amount and balance of blood flow into CNS micro-domains based upon local needs.