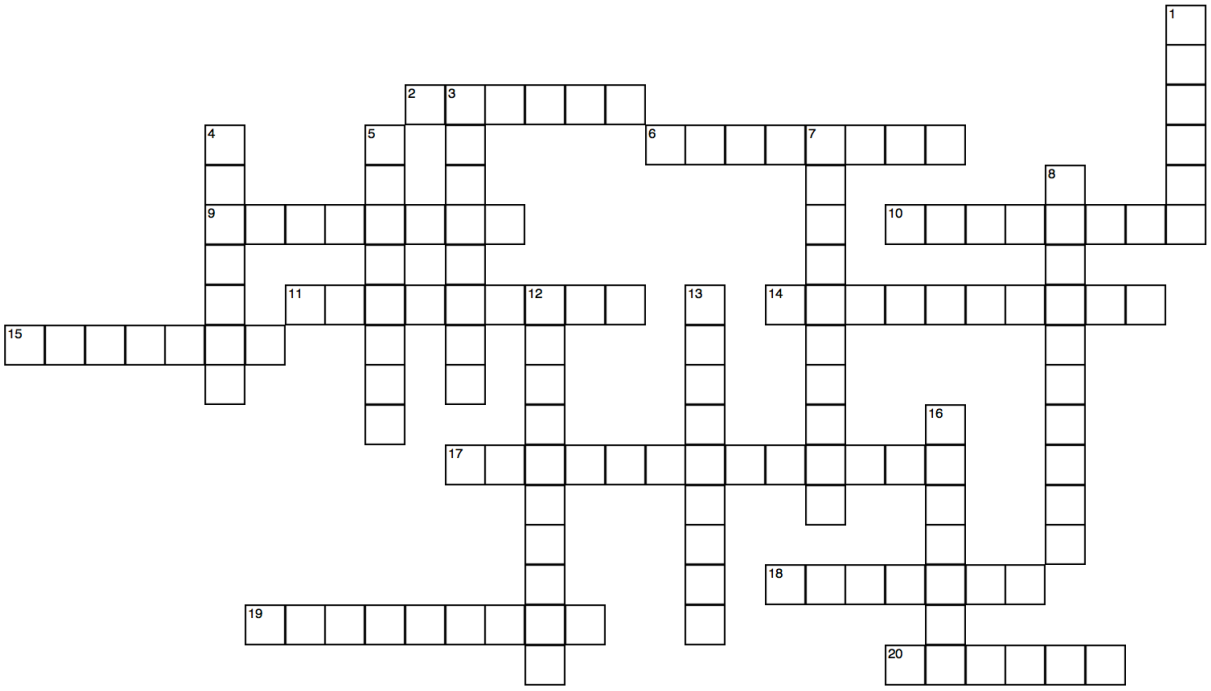

Across:

2. An essential amino acid, derived from a plant famous by its sedative activity. This amino acid is important for nervous system and cognitive functioning. It is also an important appetite suppressant.

6. A nonessential amino acid, which derivative is one of the most widespread neurotransmitters that are important for learning and memory. … acid is the primary "food" of human brain.

9. A nonessential amino acid playing a major role in the energy cycle of the body. … acid stimulates metabolism and is used to treat depression and fatigue.

10. A sulphur-containing semi-essential amino acid, known for its detoxifying and antioxidant activities.

11. An essential amino acid known for being a precursor of histamine - a compound released by the immune system during allergic reactions.

14. An essential amino acid, widely used in alternative medicine to help treat insomnia, anxiety, depression, menopausal depressive conditions and hyperactivity in children.

15. A nonessential achiral amino acid, which makes it unique among all other amino acids. Its molecule is symmetrical – identical to its mirror image. This amino acid serves as an inhibitory neurotransmitter in the central nervous system.

17. An essential amino acid with analgesic and antidepressant activity. It is a precursor of Tyrosine, and both together form adrenaline. However, there is a rare metabolic disorder, which leads to inability to process this amino acid, and results in severe irreversible mental retardation.

18. A nonessential amino acid with the exceptional conformational rigidity, participating in the synthesis of collagen. This amino acid, found in great amounts in proteins of thermophilic organisms living in extremely hot conditions, prevents their proteins from destruction.

19. An essential amino acid, involved in the formation of collagen and elastin, liver functioning, and assisting the immune system.

20. A nonessential amino acid first obtained from silk protein. It plays an important role in numerous biosynthetic pathways, serving as the precursor for such amino acids as Glycine, Cysteine, and Tryptophan. The shortage of this amino acid is believed to cause depression, insomnia, and anxiety.

Down:

1. An essential amino acid playing a major role in calcium absorption. It also stimulates production of hormones, enzymes and antibodies, and has anti-seizure properties.

3. A nonessential amino acid, isolated from a lupine seeds extract that plays an important role in cell division, wounds healing, immune function, and release of hormones.

4. A nonessential amino acid that plays a key role in energy metabolism and helps convert glucose into energy.

5. A nonessential amino acid, discovered in casein. This amino acid is the precursor of numerous neurotransmitters and hormones, important for mental functioning and mood.

7. A nonessential amino acid, named after its natural source and playing the key role in the biosynthesis of glycoproteins.

8. A sulphur-containing essential amino acid, participating in the synthesis of phospholipids. Loss of this amino acid has been linked to senile greying of hair.

12. An essential amino acid, isolated from haemoglobin. It participates in haemoglobin synthesis, regulation of blood sugar and energy levels, increases endurance and helps heal muscle tissue.

13. The most abundant nonessential amino acid in organism, produced in the muscle mass and responsible for maintaining a normal blood glucose level, the proper pH range, and ammonia excretion.

16. The only dietary essential amino acid, able to stimulate muscle protein synthesis. It is one of the most important amino acids for muscle building, but its excessive intake can be life threatening.