

# ACTIONS OF NEUROTRANSMITTERS AND AMINO ACIDS

Neurotransmitter	Amino acid it's made from	What it does	Symptoms of deficiency	Substances used to compensate for deficiency
Adrenalin, noradrenalin	L-phenylalanine L-tyrosine	Arousal, energy, stimulation, mental focus	Lack of energy, depression, poor concentration	Caffeine, cocaine, speed, tobacco, marijuana, alcohol, sugar
Dopamine	L-phenylalanine, L-tyrosine	Good feelings, satisfaction, comfort, alertness	Emptiness, lack of pleasure and reward, fatigue, depression, lack of motivation, over-eating	Alcohol, marijuana, cocaine, caffeine, amphetamines, sugar, tobacco
Endorphins, enkephalins	D-phenylalanine, DL-phenylalanine	Physical and emotional pain relief, pleasure, good feelings, euphoria, sense of wellbeing	Hyper-sensitivity to emotional and physical pain, inability to feel pleasure, feeling of incompleteness, craving for comfort or pleasure, craving for certain substances, feeling down	Heroin, alcohol, marijuana, sugar, chocolate
Serotonin	L-tryptophan or 5-HTP	Emotional stability, self-confidence, pain tolerance, quality sleep	Depression, worry, obsessiveness, compulsiveness, low self-esteem, sleep problems, craving for sweets, irritability, fearfulness, tantrums, violence, sexual promiscuity	Alcohol, sugar, chocolate, tobacco, marijuana
GABA	GABA, L-glutamine	Calming, relaxation	Anxiety, panic, tenseness, insecurity, sleeplessness, seizures	Valium, alcohol, marijuana, tobacco, sugar
Taurine	L-taurine	Calmness, promotion of sleep and digestion seizure control	Tendency to seizures, sleeplessness, anxiety, poor digestion	Benzodiazepines, alcohol