Leptin, glutamate and depression

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**Abstract:** Depression is a complex, heterogeneous mental disorder. Currently available antidepressants are only effective in about one-third to one-half of all patients. Recent growing evidence suggests that the glutamate system plays an important role in the pathophysiology of major depression and as a target for rapid-acting antidepressants. The adipocyte-derived hormone leptin is mostly known for its role in the regulation of appetite and metabolism. This presentation will provide evidence of genetic, pharmacological and behavioral interventions supporting the contribution of leptin and its receptor to the pathogenesis of depression and its therapeutic potential for this psychiatric disorder. Furthermore, the functional interaction between leptin signaling and glutamate release/transmission in the hippocampus will be discussed.