

N6-methyladenosine (m6A) methylation is a dynamic and reversible modification, marking RNA molecules. The modifications are executed by methyltransferases (writers), erased by demethylases (erasers), and recognised by effector proteins (readers). This modification influences mRNA stability, transcription, splicing, transport, and translation, adding layers of complexity to cellular communication. Recently, the role of m6A was discovered in synaptic plasticity and learning. This modification is essential in transferring information from short-term to long-term memory, establishing or strengthening existing neuron connections. Dysregulation of m6A is implicated in neurological disorders, affecting the ability of the organism to memorise and learn new information. Understanding this epitranscriptomic code will be helpful for therapeutic exploration, promising a more complete comprehension of cellular biology.