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Emerging Functional Roles of Long Noncoding RNA and LncRNA-Encoded Peptides in Glioma

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Conclusion : The role of long non-coding RNAs (lncRNAs) and peptides encoded by lncRNAs in glioma is an emerging area of research that highlights the complexity of gene regulation and the potential for novel therapeutic targets. Traditionally, lncRNAs were thought to function solely as regulatory molecules without coding potential. However, recent studies have revealed that some lncRNAs contain open reading frames (ORFs), which can indeed encode small peptides that play significant roles in tumor biology, including glioma. LncRNAs and peptides derived from them play multifaceted roles in glioma biology, influencing tumor progression and therapeutic response. Some of them play the role of oncogenic and some tumor suppressor. Their ability to regulate key cellular processes and interact with various signaling pathways positions them as promising candidates for further investigation in glioma research. As our understanding of lncRNA and lncRNA-derived peptide functions deepens, it is likely that they will become integral components of diagnostic and therapeutic strategies in the management of gliomas. This study will explore the mechanisms through which these lncRNAs and lncRNA-derived peptides contribute to glioma pathogenesis, their functional implications, and potential therapeutic applications.

Keywords : LncRNAs; Peptides; Glioma