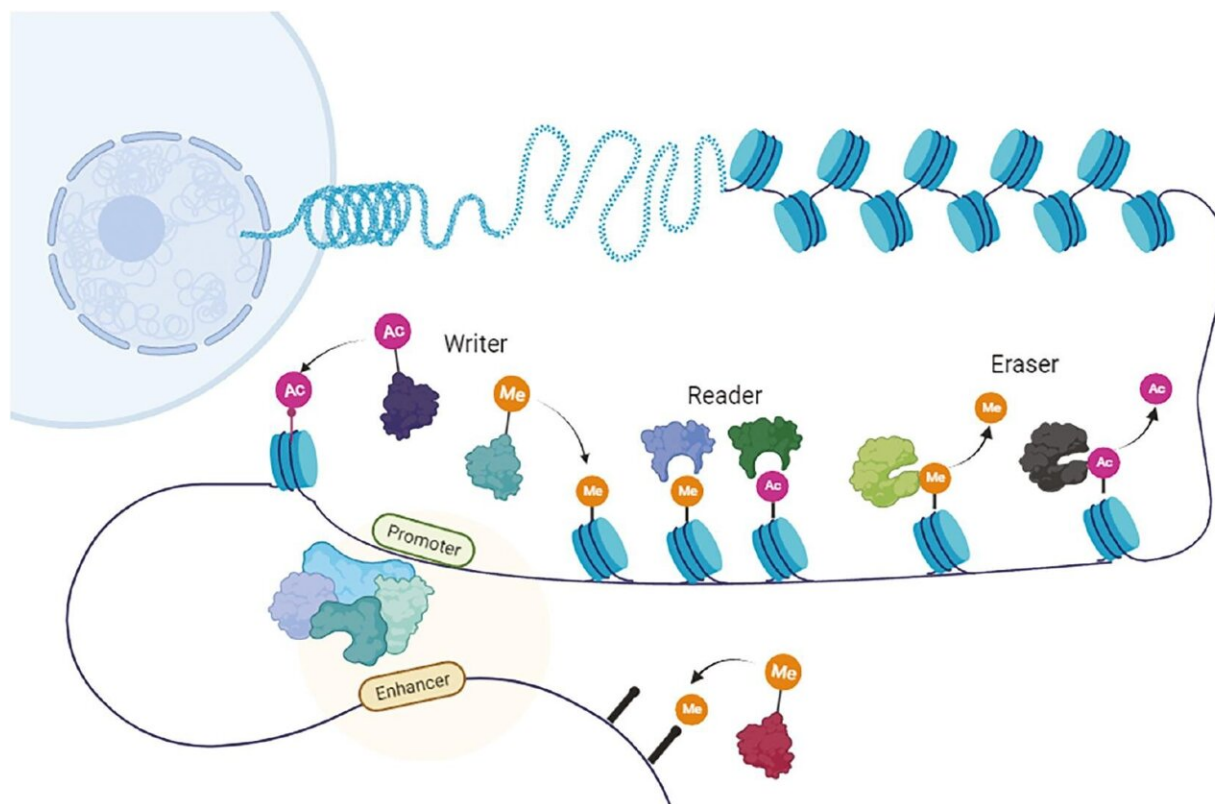


Review: PROTACs targeting epigenetic proteins

December 6 2023



Roles of epigenetics in human gene regulation. Credit: *Acta Materia Medica* (2023). DOI: 10.15212/AMM-2023-0039

The field of epigenetics focuses on alterations in gene function that are inherited without changes in the DNA sequence, including histone modifications, post-translational modifications of amino acids, and

covalent modifications of DNA bases. These alteration pathways modulate the transformation of genotypes into specific phenotypes.

Epigenetics plays a major role in [cell growth](#), development, and differentiation by dynamically regulating gene transcription and ensuring genomic stability. This regulation is performed by three key players: writers, readers, and erasers.

In recent years, epigenetic proteins have been found to have crucial roles in epigenetic regulation, and have become important targets in drug research and development. Although targeted therapy is an essential treatment strategy, the effectiveness of targeted drugs is often limited by drug resistance, thus posing a major dilemma in clinical practice.

Targeted protein degradation technologies, including proteolysis-targeting chimeras (PROTACs), have great potential in overcoming [drug resistance](#) and targeting undruggable targets. PROTACs are gaining increasing attention in the treatment of various epigenetic diseases.

In an article recently [published](#) in *Acta Materia Medica*, the authors summarize recently developed degraders targeting epigenetic readers, writers, and erasers. Additionally, [new applications](#) are outlined for epigenetic protein degraders.

Finally, several unresolved challenges in the PROTAC field are addressed, and potential solutions are suggested. As the field continues to advance, the integration of these innovative methods holds great promise in addressing the challenges associated with PROTAC development.

More information: Chao Zhang et al, PROTACs targeting epigenetic proteins, *Acta Materia Medica* (2023). [DOI: 10.15212/AMM-2023-0039](https://doi.org/10.15212/AMM-2023-0039)

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