## ФИНАНСИРОВАНИЕ РАБОТЫ

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## СОБЛЮДЕНИЕ ЭТИЧЕСКИХ СТАНДАРТОВ

В данной работе отсутствуют исследования человека или животных.

## КОНФЛИКТ ИНТЕРЕСОВ

Авторы заявляют об отсутствии конфликта интересов.

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# POST-TRANSLATIONAL REGULATION OF THE p53 TUMOR SUPPRESSOR ACTIVITY

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P53, encoded by the *TP53* gene, has attracted researchers' interest for several decades as a key human tumor suppressor protein. P53-mediated tumor suppression is achieved through transactivation of its target genes, or as a consequence of direct binding of p53 to protein targets that are involved in the regulation of various cellular processes. The review briefly discusses mechanisms involved in the regulation of p53 activity at the protein level – from oligomerization required for the implementation of p53 transactivation mechanisms to ubiquitin-dependent proteolysis that maintains a low level of this proapoptotic protein in normal cells. The main enzymes involved in various post-translational modifications and the effects they can lead to are noted. Rational intervention in these pathways at one stage or another can be relevant both for research purposes and in the applied aspect, particularly for the anti-cancer drug development.

***Keywords:*** p53, post-translational modifications (PTM), E3-ubiquitin ligases