

## عنوان مقاله:

Epi-Drugs in Breast Cancer

## محل انتشار:

یازدهمین کنگره بین المللی سرطان پستان (سال: 1394)

تعداد صفحات اصل مقاله: 2

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## خلاصه مقاله:

Introduction: DNA methylation and histone modifications are significant epigenetic events in gene (dys)regulation and controlled by so-called writers and erasers enzymes such as (de)methylases and histone (de)acetylases. Epigenetic enzymes are frequently dysregulated in cancers, including breast cancer. Epigenetic alterations in breast cancer includes DNA hypomethylation, promoter hypermethylation, reduced acetylation of histone H4, mutated histone acethyl transferases and methyltransferases, and altered histone methylation. Dysregulated epigenetic enzymes are potential targets of inhibitors against that called as epi-drugs. Method: This abstract summarizes recent findings on epi-drug treatments for breast cancer which are currently under preclinical and clinical investigations. Results: Azacitidine and Decitabine as DNA methyltransferase inhibitors (DNMTis) and Vorinostat and romidepsin as Histone deacetylase inhibitors (HDACis) are FDA approved epi-drugs in oncology. The efficacy of DNMTis and HDACis including Azacitidine, Decitabine, Valproic acid, Fazarabine, Phenylbutyrate, Vorinostat and Entinostat in breast cancer was evaluated in different phase I and II studies either as monotherapy, or in combination therapy. epi-drugs therapy resulted in anti-tumor efficacy in breast cancer patients at the maximum tolerated dose. Expected epigenetic changes observed in clinical studies as well. Importantly, epi-drugs in combination with chemotherapeutics and targeted therapies resulted in more effective outcome. More epi-drugs including FdCyd, Epigallocatechin-3-gallate, Panobinostat, and Depsipeptide is applying in current ongoing trials, as well. Discussion: The reversible nature of epigenetic modifications makes them attractive targets for epigenetic therapy of cancer. Currently, intensive research is focused on inhibiting epigenetic enzymes. DNMTis and HDACis that have been tested as therapeutic agents against breast cancer provide promising alternatives to current therapies for breast cancer.

## کلمات کلیدی:

Epi-drug, breast cancer, epigenetic, DNMTis, HDACis

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