

(12) **United States Patent**
Adimoolam et al.

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(54) **METHOD OF USING HISTONE DEACETYLASE INHIBITORS AND MONITORING BIOMARKERS IN COMBINATION THERAPY**

(58) **Field of Classification Search**
CPC A61K 2300/00; A61K 31/164; A61K 31/343; A61K 31/40; A61K 31/4525; A61K 45/06
See application file for complete search history.

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(57) **ABSTRACT**
Provided herein are methods for using at least one histone deacetylase inhibitor to decrease cellular DNA repair activity, methods for monitoring the decrease of cellular DNA repair activity using at least one biomarker, methods of treating cancer by using at least one histone deacetylase inhibitor to decrease cellular DNA repair activity in combination therapy, methods of combination therapy where at least one histone deacetylase inhibitor interferes with a DNA repairing mechanism involving RAD51, methods for predicting a induction time period between a first administration of at least one histone deacetylase inhibitor and a second administration of at least one other therapeutic treatment, and pharmaceutical compositions for combination therapy.

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7 Claims, 11 Drawing Sheets

