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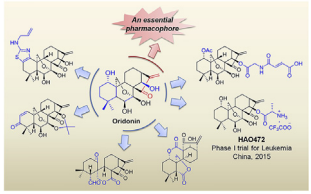
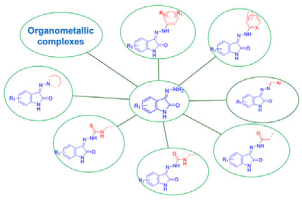
Graphical abstracts

REVIEW ARTICLE

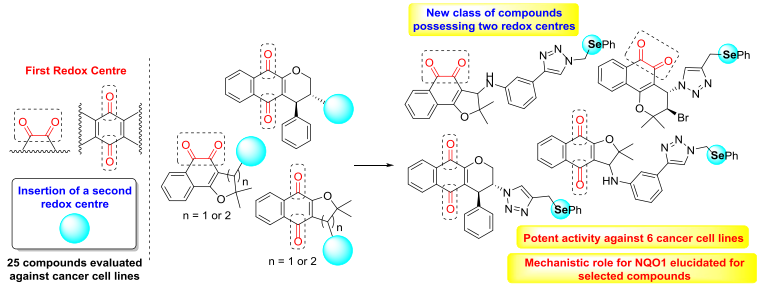


MINI-REVIEW

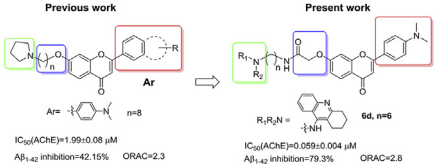


3-Hydrazinoindolin-2-one is the scaffold of choice for nine classes of compounds with significant antitumor activity. The mechanisms of anticancer activity, beside the crystallographic data of different targets or docking studies were highlighted when available.

ORIGINAL ARTICLES



Selenium-containing quinones were designed and synthesized by click chemistry reaction and evaluated against several human cancer cell lines showing, in some cases, IC_{50} values below 0.3 μM.



4-Dimethylamino flavonoid derivatives were synthesized as potential multi-functional anti-Alzheimer agents, they showed potent inhibition activity for cholinesterase, anti-oxidation and anti-Aβ aggregation activities. Molecular modeling study and kinetic analysis showed that these compounds interacted at both catalytic active site and peripheral anionic site of AChE. Compound **6d** significantly protected PC12 neurons against H_2O_2-induced cell death at low concentrations.