

A Mini Review on Triazine Derivatives as Anti-Cancer Drugs

Lakshmi Kanta Das^{1*}, Debosree Ghosh², Suwendu Ghosh³, Sourav Das⁴, Partha Sarathi Singha¹

¹Department of Chemistry, Government General Degree College at Kharagpur-II, Paschim Medinipur, India

²Department of Physiology, Government General Degree College at Kharagpur-II, Paschim Medinipur, India

³Postgraduate Department of Physiology, Acharya Brojendra Nath Seal College, Coochbehar, India

⁴Department of Zoology, Government General Degree College at Kharagpur-II, Paschim Medinipur, India

lakshmikanta20@yahoo.com (corresponding author*)

Abstract: *Though several drugs have been found to be effective in combating cancer to some extent yet, no such drugs have are yet commercially available for treating cancer. Hence the search for effective pharmaceutical formulation against the neoplastic cells continues. Triazines being highly versatile and having a stable structural configuration are a wonderful and popular choice for developing drugs against cancer. Because of their unique heterocyclic scaffold, ease of substitution and broad spectrum bioactive potentials, the triazine compounds are of interest for developing anti-cancer drugs. The electron-deficient 1,3,5-triazine core allows extensive modification of the chemical configuration. This helps to make potent triazine derivatives with enhanced efficacy, improved selectivity, increased potency and suitable pharmacokinetic properties. Studies reveal a good number of triazine-based molecules with potent and significant anticancer activity against a wide range of malignancies. Such triazine derivatives have been reported to be effective against lung, breast, colorectal, prostate and hematological cancers. This mini review summarizes recent advances in the design, structure–activity relationships and molecular mechanisms of triazine derivatives as anticancer agents, highlighting their therapeutic potential and future prospects in anticancer drug development.*

Keywords: Triazine, Anticancer, Triazine derivative, Cytotoxic

