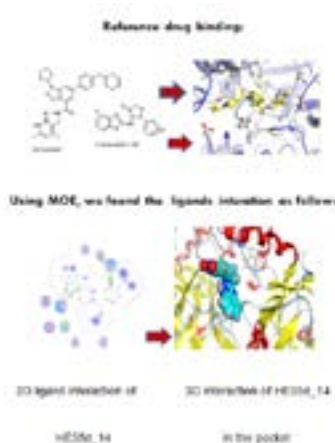


3<sup>rd</sup> International Conference on**CENTRAL NERVOUS SYSTEM DISORDERS AND THERAPEUTICS**

October 02-03, 2017 Vienna, Austria

**Benzimidazoles as epigenetic regulators of PRC2 protein complex with dual action as anti-tumor and nerve regenerators: Synthesis and molecular modeling Study****Hoda Azmy, Ghada S Hassan, Shahenda M El-Messery and Ebrahim R Hamza**  
Mansoura University, Egypt

Polycomb repressive complex 2 (PRC2) has been shown to play a major role in transcriptional silencing in part by installing methylation marks on lysine 27 of histone 3. Dysregulation of PRC2 function correlates with certain malignancies and also correlates with the nerve regeneration process. EZH2 is the catalytic engine of the PRC2 complex responsible for the methylation process and is overexpressed in many malignancies thus represents a key candidate oncology target. It also plays a role in the regulation of action of EED subunit of PRC2 which in turn plays an important role in the nerve regeneration process after injury, so here in we try to regulate the expression of EZH2 using benzimidazole selective inhibitors resulting in a dual action helping in treatment of many malignancies and the nerve regeneration process. Some benzimidazole derivatives have been synthesized and structure elucidation was assured using NMR technique. 3-((1H-Benzo[d]imidazol-2-yl)amino)-2-(4-nitrophenyl)-1,3-thiazepan-4-one have bound to the target enzyme via Cys A663, Tyr A111, Tyr A111 and Tyr A661 aminoacid residue. In vitro studies are now in process hoping to treat specially the breast, prostate, liver and leukemia tumors and regenerate neuronal cells after application of stress media. In vivo studies will be operated soon.

**Biography**

Shahenda M. El-Messery is associate professor of pharmaceutical organic chemistry at faculty of pharmacy, Mansoura University. Her research interest focuses on the design, synthesis, and evaluation of biologically active small molecules with getting the advantage of the molecular modeling modern techniques. She published scientific papers in peer reviewed journals.

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selmessery@gmail.com**Notes:**