OMICS Group Conferences
Accelerating Scientific Discovery
3rd World Congress on
Cell Science & Stem Cell Research
November 20- 22, 2013 DoubleTree by Hilton Baltimore-BWI Airport, USA

Pyridylporphyrins as potential anticancer agents

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Abstract

Since 1903, when the Danish physician Niels R. Finsen was awarded the Nobel Prize for Phisiology-Medicine, the interest for using light in medicine increased. In the next decades photosensitizing properties of porphyrins have been found, which gave input for the development of Photodynamic Therapy of cancer (PDT), Photodynamic Antimicrobial Chemotherapy(PACT) of destroying microbiological cells. Also I have shown that derivatives of meso-pyridylporphyrins possess a moderate inhibitory activity towards aminopeptidase N, which is responsible for tumor cells growth. The in vitro tests on MEL 45 and SKMEL 188 (human melanoma) caused a decrease in their number up to threefold. In vivo tests on mice manifested some toxic effects such as convulsions and worsening of the memory, which are possible, unwanted side effects.

Biography

Jan Habdas received his PhD (1978) in University of Silesia, Department of Chemistry. He was a post-doctoral fellow or research associate at Texas Tech University, Kansas State University and University of Idaho. Since of 1990 his main scientific interest has been synthesis of porphyrins in the aspects of their applications in the cancer therapy. He synthesied a new group of porphyrin derivatives, namely: phosphono- aminopeptidyl porphyrins. He published 61 papers in reputable journals. Among them 40 on synthesis, photochemical and medical properties of porphyrins. He is now emeritus in University of Silesia, Katowice, Poland.