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Discovery of extremely potent and pan-genotypic anti-hepatitis C virus

Although of the success of Direct Acting Antivirals (DAAs) in the treatment of Hepatitis C Virus (HCV) there is still a room for further research and development aiming to: Discovery of more potent pan-genotypic DAA to reduce the duration of treatment, discovery of DAA with high threshold to develop resistance to allow mono therapy and not to lose the therapeutic action throughout the treatment period, expand the genotypic coverage to include GT3 which was found to be one of the hardest to treat genotypes using DAA and to develop safer DAA suitable for the treatment of HCV in children. This study describes novel small molecules that inhibit the growth of HCV in replicon assays. Several compounds showed median Effective Concentration (EC50s) in the low picomolar range and were of median cytotoxicity CC50s in the micromolar range, leading to median selectivity indices more than six orders of magnitude, which indicate their safety. Several compounds were more active than the clinically used candidate Dacatasvir against several genotypes including GT1b, GT3 and GT4 and with lower tendency to develop resistance even after 15 weeks of continuous treatment.

Biography

Ashraf Abadi has completed his PhD from the College of Pharmacy, University of Florida, USA and Cairo University. He is the head of Pharmaceutical Chemistry Department, Faculty of Pharmacy and Biotechnology, German University in Cairo and former Dean of the Faculty. He has published more than 80 papers in reputed journals and 7 patents and has been serving as an editorial board member and reviewer of reputed international pharmaceutical sciences journals. He supervised more than 6- Master and Ph.D. theses in the field of Drug Discovery and Pharmaceutical Chemistry.

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