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## Stories Behind The Cocktail and Synergism

The therapy of AIDS and cancer rarely used single drugs, rather have used two or more drug combinations. Drug combination may provide benefits of synergistic therapeutic effect, as well as reduced toxicity, minimized or delayed development of drug resistance, or allowed attacking multiple receptor or etiological targets. The important basic requirements for these aims are: i) Definition of synergism and its quantitative determination using the Combination Index (CI<1); ii) Simple and efficient experiment design using small number of data points and small number patients in phase-I clinical trial design using the mass-action law based "minimum of two-data point theory" for dose and effect dynamics; iii) The theoretical basis for the Combination Index for 3 or more drugs combinations using the "Polygonogram". Questions to be asked are: How to assess combo synergy quantitatively for 2 or more drugs? Are the combos on the market the best in synergy? Do peer reviewers, journal editors and governmental regulatory agencies really understand what synergy is? These issues will be discussed and the answers will be provided.

### Biography

Ting-Chao Chou has received his PhD in Pharmacology from Yale University in 1970 and Postdoctoral Fellowship from Johns Hopkins University. He is the Member of Sloan-Kettering Cancer Center (MSKCC) and Professor of Pharmacology at Cornell University Graduate School of Medical Sciences. He was also Honorary Professor at Chinese Academy of Medical Sciences (1993) and Visiting Professor at five universities. He was the Director of Preclinical Pharmacology Core at MSKCC where he retired on June 1st, 2013. He has published 273 articles which have been cited 22,336 times with h-index: 65. He is Inventor/Co-Inventor of 38 United States Patents. He is the Founder of PD Science LLC., USA.

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