



Antimetastatic Chemotherapeutic Agent: M2 (MetaCham, Oral and IV)  
 (The product has been developed by Bose Institute and West Bengal State University)

Read the article: Jana et. al. Oncotarget. 2017; 8:110234-110256.

### Brief of M2:

Cancer continues to be one of the major health and socio-economic problems despite considerable progress in its early diagnosis and treatment. The search for anticancer agents that will eliminate the side effects associated with conventional cancer chemotherapy is still an active area of interest and an important field of clinical research. Our team (Bose Institute + WBSU) is involved in the development of such agents and recently we invented a very new type of potential broad spectrum anti metastatic anti-cancer agent, M2. This molecule was tested for its anticancer activity against a series of human cancer cell lines *in vitro* as well as against transplantable several tumour models in mice (including Sarcoma-180 solid tumor, Melanoma, Xenograft model). Both *in vitro* and *in vivo* data suggest that M2 induces significant cytotoxicity towards cancer cells. One unique feature of M2 is that it didn't elicit any significant toxicity to normal cells. It neither caused myelo-suppression nor induced oxidative stress in the host unlike the commonly used chemotherapeutic agent. Yet another interesting feature of M2 is that unlike many chemotherapeutic drugs, this compound can exert its cytotoxic effect on cancer cells irrespective of the cell's p53 status. M2 has been found to be very potential, anti-metastatic chemotherapeutic agent with low cytotoxicity. It inhibits Epithelial to Mesenchymal transition in metastasis. The *in vivo* (mice model) pharmacokinetics (IV and oral) data suggest that M2 has potential to be a marvellous next generation First-In-Class cancer drug. In market there is a few number of anti-invasive drugs which are highly expensive (treatment-60lakhs per yr) and highly toxic.

### Oppertunity:

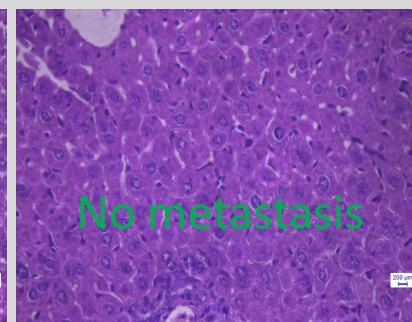
The Institute and University seek to transfer the technology of this antimetastatic molecule and its derivatives (US Patent 9682926B2) to a pharmaceutical industry (with past experience in clinical trails for drugs toward global regulatory approval for human use) for further Phase Clinical Trials and commercialization after completion of the trials.

Patent Granted:  
 United States Patent  
**US9682926B2**

Patent Filed:  
 Indian Patent:1120/Kol/2012  
 European Patent: EP2900234A4  
 Australian Patent: AU2013322120 (A1)

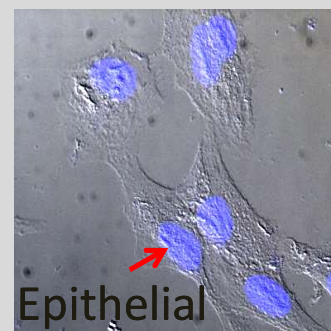
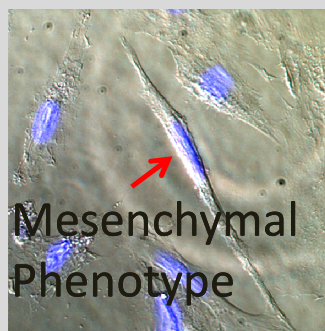
Control Oral

M2-treated



4T1 mammary carcinoma –tumor model

Control in presence of EMT Inducer    M2 treatment in presence of EMT Inducer



M2 inhibits EMT in A549 lung cancer

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