

## Motuporamine Mimic Agents

### Background

The nonselective delivery of drugs to both targeted tumor cells and healthy cells is a major shortcoming of current chemotherapies. The discovery of cancer drugs which are able to target only cancerous cells, during drug delivery, would diminish nonspecific toxicity by reducing uptake by healthy cells. Motuporamines are anticancer compounds discovered in marine sponges near the coast of New Guinea (Motupore Island) in 1998. Unlike other cancer drugs, whose mechanism of action is inhibition of cell attachment of both cancer and healthy cells, motuporamines selectively inhibit migration and angiogenesis in cancer cells. These compounds are difficult to isolate from nature in large quantities, and their synthesis is a laborious multi-step process because they comprise a fifteen-membered ring. The current invention describes a new group of compounds that function in a similar manner as dihydromotuporamine C, yet they are significantly easier and less expensive to produce because the fifteen-membered ring is replaced with an anthracene ring system. As Motuporamine mimicking agents, these new compounds were shown to be effective as anti-metastatic and cytotoxic agents in *in vitro* assays.

### Invention

The current invention relates to motuporamine mimic agents and their use as anti cancer compounds.

### Application

Motuporamine mimic agents can be used as anti-cancer drugs or in combination with another chemotherapeutic drug.

### Advantages

- Specificity for cancer cells
- Synthetic alternative to naturally derived Motuporamines

### Lead Inventor

Otto Phanstiel, Ph.D.

### Selected References

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### Contact

Attn: Svetlana Shtrom, PhD., MBA

Phone: 407-823-5150

Fax: 407-823-3299

sshtrom@mail.ucf.edu

UCF ID#7035, 7563

