AL06 **Chemical Research of Antitumor Isoquinoline Marine Natural Products and Related Compounds**

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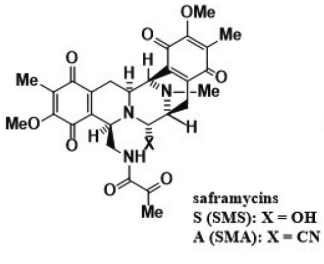
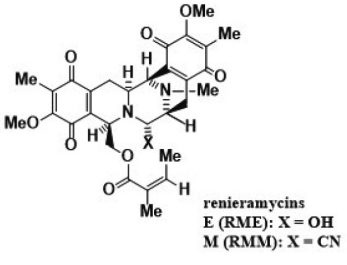
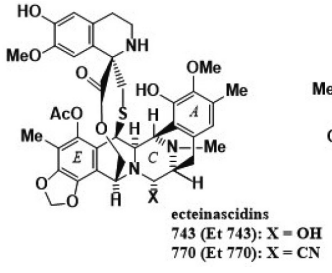
Marine species are an enticing source of new pharmaceutical agents with exciting potential. Marine species also offer an additional incentive: the lure of fascinating drug targets. A large number of marine-derived natural products possess novel structures from which new pharmacophores have been identified for structure-activity relationship studies (SARs). However, several marine natural products have precluded detailed biological evaluation, and only a few have reached clinical trials.

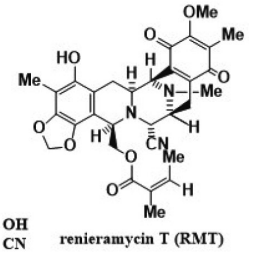
As part of our search for new anticancer metabolites through the isolation and characterization of biologically active compounds from Thai marine animals based on knowledge of the chemistry of saframycin (SM) antibiotics as well as isolation, characterization, transformation, partial synthesis, and total synthesis, we discovered a large number of antitumor renieramycin (RM) type natural products from a Thai blue sponge, *Xestospongia* sp. Furthermore, we succeeded in the isolation of ecteinascidin 770 (Et 770) in gram scale from the Thai tunicate *Ecteinascidia thurstoni* by stabilization with KCN pretreatment in methanolic buffer solution. We have worked relentlessly to develop the medicinal chemistry of antitumor isoquinoline marine natural products, including the preparation and the SAR study of RM and Et 770, as well as their total and partial syntheses". In particular, we found renieramycin T (RMT), which has a characteristic functional group in the aromatic E ring similar to that of Et 770. We recently accomplished the total synthesis of RMT. Furthermore, we found an unprecedented photo-induced 1,3-dioxol ring formation reaction that produces RMT via RMM in high yield. We present evidence of the conversion of RME into two simple isoquinoline alkaloids, minosamycin and renierol.

I hope our efforts will inspire the creation of an all-Asian medicinal chemistry research team to develop new anticancer agents based on isoquinoline marine natural products in the future.

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