Application of halichondramide for affinity media and defense mechanism of some nudibranchs against actin-targeting drugs

PS-29 Application of halichondramide for affinity media and defense mechanism of some nudibranchs against actin-targeting drugs

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We previously characterized trisoxazole-class macrolides, i.e. kabiramide C, on their binding mechanism to G-actin.[1] As an application of the drugs, we prepared affinity media from halichondramide for actin study. It was confirmed that G-actin was bound to the media and eluted with glycine buffer.

Dorid nudibranchs are known to sequester toxic molecules through feeding on their prey sponges in a species–specific manner. Three nudibranch species: *Chromodoris magnifica*, *C. elisabethina* and *C. lochi*, contain latrunculin A or B, while the Spanish dancer nudibranch *Hexabranchus sanguineus* sequesters trisoxazole macrolides.[2] We are intrigued how these mollusks evade from toxicity of the actin-targeting drugs. One of the possible explanations is the structural difference on their actins, though actin is quite conservative throughout animals. To reveal the difference, we sequenced actins of a few nudibranch species.

We will present the detail of the affinity media and preliminary results on the diversity of nudibranch actins.

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