Localization of an insulin-like androgenic gland factor (IAG) in the giant freshwater prawn *Macrobrachium rosenbergii*

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Androgenic gland hormones (AGH) have been characterized from only isopod crustaceans. Isopod AGH is synthesized in and secreted from the androgenic glands (AG) that are associated with the posterior region of the sperm duct. AGH plays a role in the control of sex differentiation. AGH-like peptides have been found in some decapod species, and designated as insulin-like androgenic gland factors (IAG). However, immunohistochemical studies aimed to detect decapod IAG have been conducted in only the blue swimmer crab *Portunus pelagicus*. In order to elucidate the localization of IAG in decapod crustaceans, we attempted immunohistochemical staining using anti-*Macrobrachium rosenbergii* IAG (Mar-IAG) antibody.

Recombinant Mar-IAG (rMar-IAG) was expressed using an *E. coli* expression system, and was subsequently purified by reverse-phase HPLC. Using the purified rMar-IAG as an antigen, anti-Mar-IAG antibody was obtained. Male reproductive organs were dissected from *M. rosenbergii* and fixed. The fixed samples were embedded in paraffin and sectioned at a thickness of 5 μm. Sections were subjected to immunohistochemical staining using the antibody. As a result, immunopositive signals were observed only in the AG cells. This indicates that decapod IAG is specifically synthesized in the AG in the same manner as isopod AGH.