

# 國外鏈球菌疫苗用於金目鱸與龍膽石斑之評估

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## 摘要

本研究之目的為透過實驗室與田間之安全試驗與效力試驗，評估國外之商品化瓶鼻海豚鏈球菌 (*Streptococcus iniae*) 疫苗用於金目鱸 (*Lates calcarifer*) 與龍膽石斑 (*Epinephelus lanceolatus*) 魚苗之效果。於實驗室條件下腹腔內接種 2 劑量疫苗之 27 尾金目鱸與 20 尾龍膽石斑於 14 天之觀察期內均健存；腹腔內接種 1 劑量疫苗之魚隻於免疫後 3 週以 *Streptococcus iniae* 菌液攻毒時之死亡率顯著低於對照組，relative percent survival (RPS) 分別為 81-86 (金目鱸) 與 86-100 (龍膽石斑)。田間試驗中腹腔內接種 1 劑量疫苗之 500 尾金目鱸雖因卵圓鞭毛蟲 (*Oodinium spp*) 與車輪蟲 (*Trichodina spp*) 之感染導致死亡率達 41.6%；但接種 1 劑量疫苗之 500 尾龍膽石斑則均健存。田間試驗魚隻於免疫後 3 週以 *Streptococcus iniae* 菌液攻毒時 RPS 分別為 66-76 (金目鱸) 與 100 (龍膽石斑)。由以上之結果顯示在魚隻健康之前提下接種此疫苗並無安全性之疑慮，且攻毒後可達到疫苗效力檢定之要求 (RPS  $\geq$  60)。

# Evaluation of a Foreign *Streptococcus iniae* Vaccine in Giant Seaperch and Giant Grouper

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## Abstract

The objective of the study was to evaluate the safety and efficacy of commercial inactivated *Streptococcus iniae* vaccine produced by foreign company in the cultured giant seaperch (*Lates calcarifer*) and giant grouper (*Epinephelus lanceolatus*) juveniles under laboratory and field conditions. The laboratory safety test was performed by intraperitoneal injection with double doses of vaccine into 27 giant seaperch and 20 giant grouper; there was no death or adverse effect observed during 14 days after vaccination. The laboratory efficacy test shows the mortality of single dose vaccinated group significantly lower than non-vaccinated group while challenge with *Streptococcus iniae* 3 weeks after vaccination; the relative percent survival (RPS) values ranged from 81 to 86 for giant seaperch and 86 to 100 for giant grouper. The mortality were 41.6% (208/500) and 0% (0/500) on giant seaperch and giant grouper injected with one dose of vaccine in field trial farm respectively, and the high mortality due to *Oodinium* spp and *Trichodina* spp infection was confirmed in giant seaperch. In field efficacy test, vaccinated and controlled fish were challenged with *Streptococcus iniae* 3 weeks after vaccination, and the RPS values ranged from 66 to 76 for giant seaperch and 100 for giant grouper. Our results indicate the good safety of the tested vaccine when injected on healthy fish and can meet the efficacy requirement for vaccine inspection (RPS  $\geq$  60).