

### 新发现的红拟石首鱼溃疡病病原海藻施万氏菌的分离和分子鉴定

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中文摘要:首次从患溃疡病的养殖红拟石首鱼(*Scinops ocellata*)病灶和肠、肝、肾等处分离到多株细菌,发现其中两株经注射和创伤感染后,能引起体表溃疡,肠道积水等症状,与自然发病表现类似。经过生理生化鉴定为弧菌科(Vibrionaceae)施万氏菌属(*Shewanella*),进一步用16S rDNA扩增测序鉴定该菌为海藻施万氏菌(*Shewanella algae*),其主要特征为:革兰氏阴性,TCBS生长,产硫化氢,嗜盐,不利用葡萄糖产酸或产气,也不发酵其他糖类产酸;蛋白酶,硝酸盐还原酶,氧化酶阳性;具有较强的溶血活性。利用作者研制出的PCR检测试剂盒,对海藻施万氏菌进行了快速的分子鉴定。

中文关键词:[海藻施万氏菌](#) [红拟石首鱼](#) [溃疡病](#) [PCR检测试剂盒](#)

### IDENTIFICATION AND CHARACTERIZATION OF SHEWANELLA ALGAE AS A NOVEL PATHOGEN OF ULCER DISEASE OF FISH SCINENOPS OCELLATA

**Abstract:**The genus *Shewanella*, a minor genera of Vibrionaceae family, has been studied since 1931. Most research with regard to this organism has largely been involved in applied and environmental microbiology. Up to now, no report was presented to reveal its potential hazard to the aquatic animals. Here the first case of ulcer disease of marine cultured fish *Scinops ocellata* with *S. algae* is reported. The isolated strains were identified as *Shewanella algae* based on phenotypical and genotypical traits. The main biochemical properties were as follows: gram-negative, production of red pigment and H<sub>2</sub>S, growth at 6% NaCl and no acid production from carbohydrates; positive in hemolysis, protease, oxidase and ornithine decarboxylase; a pair of universal primer targeting the 16S rDNA of gram negative bacteria were designed. The PCR production was purified, sequenced and aligned with those in GENBANK. Its sequence shares high homology with those of standard strains of *Shewanella algae*. In order to detect this pathogen more rapidly, a PCR kit was developed and its specificity was demonstrated. The production of PCR is about 270bp. Its pathogenicity was confirmed by the artificial challenge against *Scinops ocellata*.

**keywords:**[Shewanella algae](#) [Scinops ocellata](#) [Ulcer](#) [PCR diagnosis](#)

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