

Strong promoter for marine invertebrates

OsHV-1 promoter for gene delivery and a variety of applications in bivalve molluscs.

Overview

Understanding gene functions in marine invertebrates has been limited, largely due to the lack of suitable assay systems.

The inventors discovered a strong viral promoter derived from a bivalve-infectious virus, ostreid herpesvirus-1 (OsHV-1).

This promoter showed 24.7-fold and 16.1-fold higher activity than the cytomegalovirus immediate early (CMV IE) promoter and the endogenous EF1 α promoter, the two most commonly used promoters in bivalves so far (Fig.1).

GFP assays showed that the OsHV-1 promoter is active not only in scallop cells (Fig.2) but also in HEK293 cells (Fig.3) and zebrafish embryos.

Product Application

- Modification of taste and nutritional content
- Provision of water purification function
- Development of genetic sterilization technology
- Production of superior varieties
- Production of functional proteins

IP Data

IP No. : PCT/JP2022/030912
 Inventor : Yoon J., Nagasawa K., Osada M., Yokoi H.
 Admin No. : T22-084

The OsHV-1 promoter activities

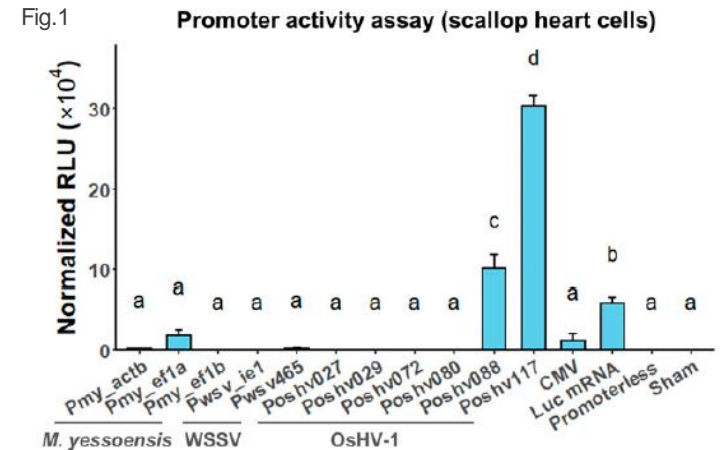


Fig.2 Scallop heart cells

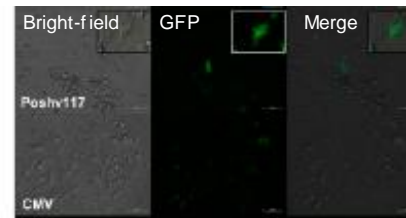
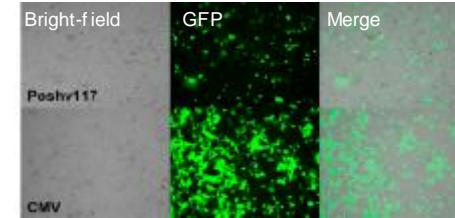


Fig.3 HEK293 cells



Related Works

[1] PNAS 2022 Vol. 119 No. 45 e2209910119

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