Data in Brief 6 (2016) 661–667

Contents lists available at ScienceDirect

Data in Brief

journal homepage: www.elsevier.com/locate/dib

Data Article

Data for the inhibition effects of recombinant lamprey CRBGP on the tube formation of HUVECs and new blood vessel generation in CAM models

Qi Jiang [a,b], Yu Liu [a,b], Meng Gou [a,b], Jianmei Han [a,b], Jihong Wang [a,b], Qingwei Li [a,b,*], Rong Xiao [a,b,*]

[a] School of Life Sciences, Liaoning Normal University, Dalian 116081, PR China
[b] Lamprey Research Center, Liaoning Normal University, Dalian 116081, PR China

ARTICLE INFO

Article history:
Received 25 November 2015
Received in revised form
26 December 2015
Accepted 6 January 2016
Available online 13 January 2016

Keywords:
Lamprey
CRISP
rL-CRBGP
Anti-angiogenic activity

ABSTRACT

In the present data article, lamprey cysteine-rich buccal gland protein (CRBGP) which belongs to cysteine-rich secretory proteins (CRISPs) family was recombinant and expressed in *Rosetta blue* cells. After identification, the recombinant protein was purified through affinity chromatograph. The inhibition effects of recombinant lamprey CRBGP (rL-CRBGP) on tube formation of human umbilical vein endothelial cells (HUVECs) and new blood vessel generation in chick chorioallantoic membrane (CAM) models were analyzed. This paper contains data related to research concurrently published in "Anti-angiogenic activities of CRBGP from buccal glands of lampreys (*Lampetra japonica*)" [1].

1. Specifications table

Subject area	*Biology*
More specific subject area	*Biochemistry*

DOI of original article: http://dx.doi.org/10.1016/j.biochi.2015.11.020
* Corresponding authors.
E-mail addresses: liqw@263.net (Q. Li), liulangmao1980@126.com (R. Xiao).

http://dx.doi.org/10.1016/j.dib.2016.01.004

Type of data	*Figure*
How data was acquired	*Microscope, mass spectroscopy, camera*
Data format	*Raw and analyzed, etc.*
Experimental factors	*PBS and rL-CRBGP were added in HUVECs and CAM models*
Experimental features	*Protein recombination, expression, separation, purification and identification. Cell culture, tube formation and CAM model assay*
Data source location	*Dalian, China*
Data accessibility	*Data is with this article*

2. Value of the data

- These data are valuable for the soluble expression of the other CRISP family members.
- These data are valuable for the studies of the relationship between other CRISP family members and angiogenesis.

3. Data

As shown in Fig. 1, lamprey CRBGP is a very conservative gene and has 45% sequence identity with the ES-CRISP from the snake venom of *Echis carinatus sochureki*. Subsequently, lamprey CRBGP was subcloned into a pEGX-4T-1 vector and expressed as a Glutathione S-transferase (GST)-tagged fusion protein in *Rosetta blue* cells with the molecular weight of 51.6 kDa (Fig. 2). After identification by matrix-assisted laser desorption/ionization time of flight (MALDI-TOF/TOF) analysis, rL-CRBGP was found to exhibit the anti-angiogenic activities in both tube formation and CAM assays (Figs. 3–5).

4. Experimental design, materials and methods

4.1. Sequence alignment

Additional 10 CRISP sequences from the other species were obtained from ExPASy (http://www.expasy.ch/tools/blast). The multiple sequence alignments of CRISPs were performed by ClustalX (1.81) software using default settings [2].

4.2. Expression, purification, and identification of rL-CRBGP

A pair of PCR primers (CRBGP-F: 5′-CCGGAATTCGCGAGCGTCGTGGCGGCGACA-3′; CRBGP-R: 5′-AGAAGAATGCGGCCGCCTGCACATCCGTCG-3′) was designed based on the sequence of lamprey CRBGP [3], flanked by an *Eco*R I and a *Not* I restriction site. Lamprey CRBGP was amplified and subcloned into a pEGX-4T-1 vector with a GST-tag. rL-CRBGP was expressed in *Rosetta blue* cells induced with 1 mM isopropyl-1-thio-β-D-galactopyranoside (IPTG) for 36 h. The cells were collected by centrifugation, and washed in PBS for twice (pH 7.4). Subsequently, the cells were resuspended in the PBS (pH 7.4) and sonicated on ice for 60 min. After centrifugation, the soluble supernatant was collected and