



ข้อกำหนดในการจัดทำ e-poster และ clip video เพื่อนำเสนอผลงาน

1. ลักษณะและขนาดของ e-poster

- 1.1 e-poster มีขนาด A0 แนวตั้ง (กว้าง 80 ซม. x สูง 120 ซม.) จัดส่งเป็นไฟล์ pdf ขนาดไม่เกิน 3MB
- 1.2 ใช้ font ที่อ่านง่ายชัดเจน โดยชื่อเรื่องควรมี font size ไม่น้อยกว่า 70 Points และเนื้อหาควรมี font size ไม่น้อยกว่า 28 Points
- 1.3 เนื้อหาภายใน e-poster ต้องเป็นภาษาอังกฤษ โดยสรุปเฉพาะใจความสำคัญกระชับ ชัดเจน ไม่ใช้คำฟุ่มเฟือย อาจมีภาพหรือตารางประกอบเพื่อสื่อความหมายแทนข้อความ เป็นต้น
- 1.4 รูปแบบและการตกแต่ง e-poster สามารถออกแบบได้อิสระ แต่จะต้องมีตราสัญลักษณ์ของคณะวิทยาศาสตร์ และ KUSTARS ปรากฏบน e-poster อย่างชัดเจน (สามารถดาวน์โหลดตราสัญลักษณ์ทั้งสองได้จาก <https://www.sci.ku.ac.th/kustars/logo/>)



2. องค์ประกอบของ e-poster ประกอบด้วย

- 2.1 Title, author(s), organization: ชื่อเรื่อง ชื่อผู้วิจัยและคณะผู้วิจัย สถาบันที่สังกัด (ภาควิชา, คณะ)
- 2.2 Abstract
- 2.3 Introduction: กล่าวถึงที่มา ความสำคัญ เหตุผลในการศึกษา หรือ แนวคิดทฤษฎีที่ต้องการพิสูจน์ เป็นต้น
- 2.4 Objective(s): ระบุถึงวัตถุประสงค์ของงานวิจัย
- 2.5 Methodology (Materials and method): ระบุสั้น ๆ ถึงหลักการ กรอบทฤษฎีที่ใช้ การวางแผนสำหรับ กระบวนการวิจัย ระบุถึงเครื่องมือที่ใช้ เป็นต้น
- 2.6 Result and Discussion: ระบุถึงผลการศึกษาที่สำคัญ ซึ่งสอดคล้องกับวัตถุประสงค์และวิธีการศึกษา การค้นพบที่โดดเด่นที่สุดของงานวิจัยที่สามารถตอบคำถามของงานวิจัยได้ตรงและชัดเจนที่สุด
- 2.7 Conclusion: กล่าวถึงสิ่งที่ค้นพบจากการวิจัย ความสำเร็จของงานวิจัย การศึกษาวิจัยครั้งนี้ได้อะไร ประโยชน์ที่ได้ การนำไปใช้ประโยชน์หรือนำไปต่อยอด เป็นต้น
- 2.8 Reference: เลือกเฉพาะที่เกี่ยวข้องโดยตรงเท่านั้น
- 2.9 Acknowledgement





3. การจัดทำ clip video นำเสนอผลงาน
 - 3.1 นำเสนอผลงานผ่าน clip video ความยาวไม่เกิน 3 นาที จัดส่งเป็นไฟล์ mp4 ขนาดไม่เกิน 50MB
 - 3.2 เนื้อหาใน clip video ต้องเป็นภาษาอังกฤษ ประกอบด้วย การแนะนำตัวเอง (ชื่อ-นามสกุล ชั้นปี ภาควิชา) เนื้อหงานวิจัยในประเด็นหลัก ได้แก่ ที่มาของปัญหา วิธีการวิจัย ผลการวิจัย สรุปผลการวิจัย และกล่าวทิ้งท้ายด้วยการเชิญชวนให้ผู้ฟังดูเนื้อหาเต็มได้ที่ e-poster

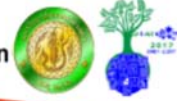




ตัวอย่างโปสเตอร์



Effect of *Tiliacora triandra* leaves extract on oxidative status in permanent left common carotid artery occlusion mice.



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Abstract

Chronic cerebral hypoperfusion is involved in neurodegenerative diseases such as vascular dementia (VaD) and Alzheimer's disease (AD). It is induced by thrombotic or embolic blockage of the cerebral blood flow and lead to oxidative stress neuronal degeneration. The present study aimed to investigate the effect of *Tiliacora triandra* leaves extract on the brain oxidative stress in chronic cerebral hypoperfusion mice induced by permanent left common carotid artery occlusion. Fifteen male ICR mice were randomly divided into 3 groups of Control, UCO+300, UCO+600. Control mice were surgery for permanent left common carotid artery occlusion and orally administration of 10% Tween 80 while others were received *T. triandra* leaves extract (300 and 600 mg/kg) for 14 days. All mice were decapitation and remove brain for oxidative stress evaluation such as total protein level, calcium level and lipid peroxidation (malondialdehyde; MDA), catalase (CAT), reduced glutathione (GGH), and superoxide dismutase (SOD). The result showed that *T. triandra* leaves extract had no effect on the oxidative status in our chronic cerebral hypoperfusion mice model. The present study concluded that *T. triandra* leaves extract had no effect on oxidative status in chronic cerebral hypoperfusion mice model which is induced by permanent left common carotid artery occlusion.

Introduction

Chronic cerebral hypoperfusion plays an important role in the causes of dementia as found in Vascular dementia (VaD) and Alzheimer disease (AD). Aging itself also contributed to cerebral hypoperfusion and lead to disturbing of the functions and causing of gradually degeneration and dead of the brain neurons.

Study of the relationship of causes, mechanisms, and the deterioration of brain functions in humans are difficult. Hence, the animal models of mild chronic cerebral hypoperfusion are required. The consequences of permanent bilateral common carotid artery occlusion (2VO) was severe. It caused rapidly pathological changes and cognitive decline and might not similar to pathological occurring in humans.

A milder cerebral hypoperfusion model and might resemble pathological occurring in humans rather than 2VO model was proposed. The permanent unilateral common carotid artery occlusion (UCO). As the study on the relation between the duration of UCO and the onset of neuronal damage was done while the relationship with oxidative status was not done. *Tiliacora triandra* or Yanang has many useful properties, such as anti-oxidant, anti-inflammation, decrease neuronal dysfunction and acetylcholine esterase (AChE) inhibitor which might be benefits against ischemic injury as well as might prevent neuron damage caused by oxidative stress.

Objectives

1. The study aimed to investigate the effect of blood to the brain decreased steadily from permanent left common carotid artery occlusion on oxidative stress in the brains of mice.
2. The study aimed to investigate the effect of *Tiliacora triandra* leaves extract on the brain oxidative stress in permanent left common carotid artery occlusion mice.

Materials and Methods

The experimental protocol was approved by Animal Ethics Committee, Kasetsart University, Bangkok, Thailand (IDRACKUG4559)



Mice were orally administered with vehicle (10% Tween 80) and/or *T. triandra* extract (300 and 600 mg/kg) for 14 days after surgery. Oxidative stress evaluation were total protein level, catalase (CAT), reduced glutathione (GGH), superoxide dismutase (SOD), lipid peroxidation (malondialdehyde; MDA) and calcium level by using colorimetric methods.

Results



The result showed that the Total protein level, MDA, GGH, SOD, CAT and calcium were not significantly difference in all groups.

Conclusion

The present study concluded that *T. triandra* leaves extract had no effect on oxidative status in chronic cerebral hypoperfusion mice model which is induced by permanent left common carotid artery occlusion within 2 period.



Acknowledgements

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ตัวอย่างโปสเตอร์

Evaluation of DNA markers for bryophytes genus *Cololejeunea* for DNA barcoding

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ABSTRACT

INTRODUCTION

AIMS

MATERIALS & METHODS

CONCLUSION

REFERENCES

The objective of this study was to evaluate the effectiveness of four markers for DNA barcoding of bryophytes genus *Cololejeunea*, which is found mostly on the surface of plant's leaves. We studied their morphological characters under light microscope and stereo microscope. Then we extracted and amplified DNA of 4 DNA markers: *matK*, *rbcL*, *trnL-F*, and *ITS* with the PCR technique. Nucleotide sequence data from the GenBank database were analyzed with MEGA 6 program. The results showed various ambiguous morphological characters in genus *Cololejeunea*. The highest successes of amplifications were found in two DNA markers: *trnL-F* and *ITS*. The nucleotide sequence data analysis showed that *ITS* had the highest number of monophyletic groups and can tell different species apart. Therefore, the *ITS* marker should be used for DNA barcoding in bryophytes genus *Cololejeunea*.

Bryophytes genus *Cololejeunea*, is a kind of leafy liverworts, in family Lejuneaceae, that grow on surface of vascular plant's leaves. This morphology is very similar causing species identification to be difficult.

Recent the genetic data are used in species identification with short sections DNA from standardized regions of genome also known as DNA markers. That method is DNA barcoding. To be a good DNA marker, it must meet three criteria: Universality, Sequence quality and Discriminatory power.

This study aims to investigate the morphological characters of some bryophytes genus *Cololejeunea* from various areas in Thailand and to evaluate DNA markers for classification of bryophytes genus *Cololejeunea*. In the first step we verified marker universality with PCR technique, and in the second step we verified marker discriminatory power with nucleotide sequence data analysis.

To investigate the morphological characters and to evaluate DNA markers by ability to amplify and tell different species by nucleotide sequence data analysis for bryophytes genus *Cololejeunea*.

Morphological characters

Plant materials were collected from various areas in Thailand. Studied specimens under compound and stereo microscope. Identified species using *Typhlochyta* Liverworts of China.

Molecular data

- **PCR success**
- **Nucleotide sequences data**

Morphological characters

Bryophytes genus *Cololejeunea* show some morphological characters are very similar in their morphology, and growth forms.




Figure 1 The different growth form of bryophytes genus *Cololejeunea* on the surface of vascular plant's leaves. 1 (A) *Cololejeunea laevifolia*, (B) *Cololejeunea griffithii*, (C) *Cololejeunea tenella*, (D) *Cololejeunea formosa*.

Molecular data

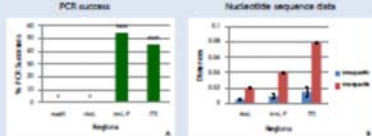


Figure 2 (A) The percentage of PCR successes with 4 DNA markers: *matK*, *rbcL*, *trnL-F*, and *ITS* of bryophytes genus *Cololejeunea*. (B) The comparison of intraspecific and interspecific genetic distances of sequence data with 4 DNA markers: *matK*, *rbcL*, *trnL-F*, and *ITS*.

Table 1 The analysis and comparison of sequence data with 4 DNA markers: *matK*, *rbcL*, *trnL-F*, and *ITS* of bryophytes genus *Cololejeunea*

Markers	Number of sequences	% Conserved sites	% Variable sites	base pair after alignment	% Intra-specific Monophyletic	% Inter-specific Monophyletic (8P + 7G)
<i>matK</i>	11	-	-	-	-	-
<i>rbcL</i>	76	86.07	13.93	1229	73.61	65.52
<i>ITS</i>	139	66.66	33.34	376	76.97	76.97
<i>trnL-F</i>	112	71.79	28.21	366	63.76	51.80

* 8P + 8 bootstrap support
* "-" Not found genetic sequence data

We found the morphological characters in this group was very little difference in their morphology. In molecular data, we decided to choose *ITS* as a DNA barcoding marker for bryophytes genus *Cololejeunea* because of this DNA marker meet two criteria of a good DNA marker easy to amplify with PCR technique and can tell different species apart, so the *ITS* should be possible to use for DNA barcoding in bryophytes genus *Cololejeunea*.

Morphological characters

After we investigated the morphological characters in bryophytes genus *Cololejeunea*, these showed characters were not very different between species. It can be confusing for species identification for morphology because some morphology showed the same characters.

Molecular data

- **PCR success**
- **Nucleotide sequence data**

We checked PCR successes with the band appearing on agarose gel from gel electrophoresis technique, which showed highest PCR successes in *trnL-F* and *ITS*, which is one of three criteria for good marker (Hollingsworth et al., 2011). In previous study, *trnL-F* and *ITS* were reported of amplification in group of bryophytes (Tobler et al., 1991) and liverwort genus *Bryopteris* (Hartmann et al., 2000).

We found no data for *matK*, therefore only 3 markers were analyzed. *ITS* showed high interspecific genetic distance, percentage of monophyletic group and variable sites, these showed ability of this marker to tell different species apart. The *ITS* has long enough sequence these meet criteria of good DNA marker (Hollingsworth et al., 2011).

DISCUSSION

CONCLUSION

REFERENCES

