APPENDICES

APPENDIX A

INSTRUMENTS

List of instruments used in this study

Instruments	**Source**
Centrifuge	Kendo Laboratory, Germany
ELISA reader	Tecan, Austria
Incubator	Thermo electron corporation, USA
Laminar Flow	NUAIRE, USA
Microcentrifuge	Kendro, Germany
pH meter	Precisa, Switzerland
Refrigerator (-20°)	Whirlpool, Thailand
Sepectrophotometer UV-1201	Shimadzu Co., Japan
Water bath	Memmert, Germany

APPENDIX B

REAGENTS AND BUFFERS PREPARATION

1. Regent for Cell culture

1.1. Dulbecco's Modified Eagle Medium (DMEM)

DMEM powder	13.54 g
$NaHCO_3$	0.200 g
HEPES	1.150 g
ddH_2O	800 ml

Stirred until dissolved and adjust pH with acetic acid.

Dissolved in ddH_2O and adjust volume to 1,000 ml.

Filtered through 0.2 µm Millipore membrane filter

Mixed and stored at 4 ◦C.

1.2. Complete DMEM culture medium

DMEM medium	89 ml
Fetal bovine serum (FBS)	10 ml
Pennicillin (10,000 units/ml)/ Streptomycin (10,000 units/ml)	1 ml

1.3. Phosphate buffer saline (PBS pH 7.2)

NaCl	8.000 g
KCl	0.200 g
Na_2HPO_4	1.150 g

KH_2PO_4	0.200 g
Distilled water	800 ml

Adjust pH to 7.2 by adding 1N HCl or 1N NaOH

Adjust volume to 1000 ml.

Filter with 0.2 μm millipore filter, Store at room temperature

1.4. 0.25% Trypsin EDTA

Disodium EDTA	0.025 g
Trypsin	0.25 g
PBS	100 ml

1.5. Hank's Balanced Salt Solution (HBSS)

KCl	0.400 g
KH_2PO_4	60 mg
NaCl	8 g
$NaHCO_3$	0.350 g
$NaH_2PO_4 \cdot 7H_2O$	90 mg
Glucose	1000 g
ddH_20	1000 ml

2. Reagent for ELISA

2.1. Phosphate buffer saline (PBS pH 7.2)

NaCl	8.000 g
KCl	0.200 g
Na_2HPO_4	1.150 g
KH_2PO_4	0.200 g
Distilled water	800 ml

Adjust pH to 7.2 by adding 1N HCl or 1N NaOH

Adjust volume to 1000 ml.

Filter with 0.2 μm millipore filter, Store at room temperature

2.2. Coating buffer (0.1 M Carbonate/Bicarbonate pH 9.6)

Na_2CO_3	1.06 g
$NaHCO_3$	1.26 g
Distilled water	200 ml

Mix well, Adjust pH to 9.6 with concentrated HCl

Adjust volume to 250 ml, Storage at 4° C

2.3. Blocking buffer (2% Skimmed milk)

Skimmed milk	2 g
PBS	100 ml

Mix well, prepare before use

2.4. Stopping solution (1 N HCl)

HCl	82.8 ml
Sterile distilled water	917.2 ml

Slowly dropwise HCl to distilled water, Store at room temperature

2.5. 0.05% Tween-PBS

PBS pH 7.2	500 ml
Tween	250 ml

Mix well, Store at room temperature

3. Reagent of XTT assay

3.1. XTT reagent

XTT powder	5 mg
Incomplete DMEM	5 ml

3.2. N-methyl dibenzopyrazine methyl sulfate (PMS)

PMS powder	1.53 mg
PBS	1 ml

APPENDIX C

STANDARD CURVE

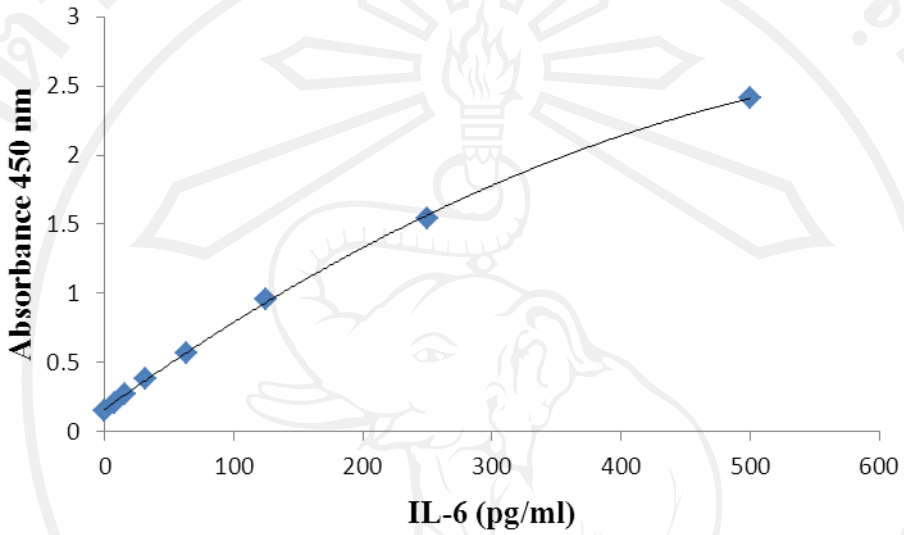

Figure I. The standard curve of IL-6 concentration determined by ELISA

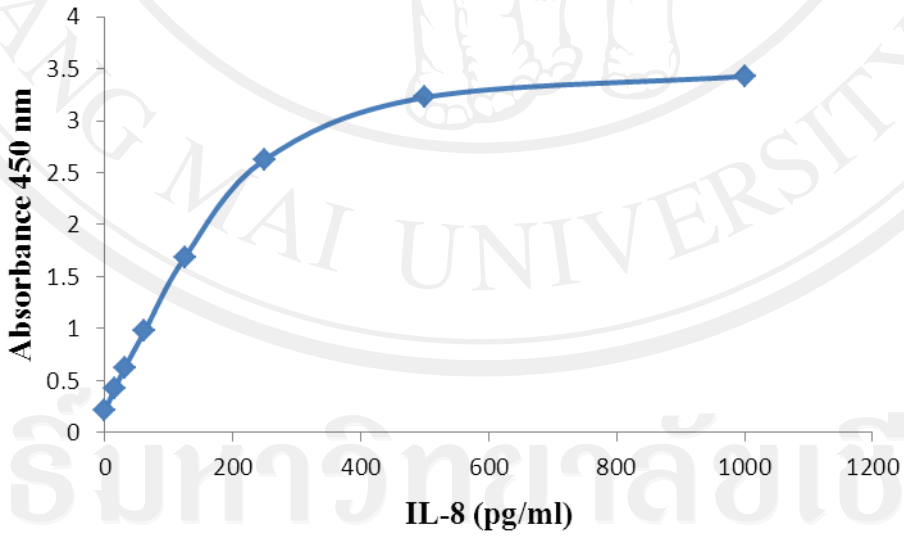

Figure II. The standard curve of IL-8 concentration determined by ELISA

CURRICULUM VITAE

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Education background

Year	Degree	Institution
2005	Certificated of high school	Pasang School
2009	Bachelor of Science (Medical Technology)	Chiang Mai University

Research support

2011 The government funding (2010) and the Research Chair Grant, The National Sciences and Technology Development Agency (Thailand)

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Presentations and publications

1. Udomsom S, Khunatorn Y, Taneyhill K. Toxicity Testing of Particulate Matter Collected from Chiang Mai using the Developed Direct Alveolar Epithelial Cells-Air Exposure Prototype. Proceedings: 1st ASEAN Plus Three Graduate Research Congress. 2012. (Oral presentation and proceeding)
2. Udomsom S, Khunatorn Y, Taneyhill K. Toxicity Testing of Particulate Matter Collected from Chiang Mai using the Developed Direct Alveolar Epithelial Cells-Air Exposure Prototype. The conference on Recent Advances in Diagnosis and Monitoring of Liver Diseases at the Annual Meeting of the Faculty of Associated Medical Sciences, Chiang Mai University. 2012. (Poster presentation)