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LIST OF ABBREVIATIONS

%	Percentage
°C	Degree celcius
β-NADPH	β-nicotinamide adenine dinucleotide phosphate
μg	Microgram
μl	Microliter
ACF	Aberrant crypt foci
AlCl ₃ ·6H ₂ O	Aluminium chloride hexahydrate
BSA	Bovine serum albumin
bw	Body weight
CDNB	1-chloro-2, 4-dinitrobenzene
CuSO ₄ ·5H ₂ O	Copper sulfate pentahydrate
DAB	3, 3-diaminobenzidine
DEAE	Diethylaminoethanol
DMH	1, 2-dimethylhydrazine
DI	Deionized water
DMSO	Dimethyl sulfoxide
DTT	Dithiothreitol
DW	Distilled water
EDTA	Ethylene diamine tetraacetic acid
EGTA	Ethylene glycol tetraacetic acid

G6P	Glucose-6-phosphate
G6PD	Glucose-6-phosphate dehydrogenase
GAE	Gallic acid equivalent
GSH	Reduced glutathione
GSSH	Oxidized glutathione
GST	Glutathione- <i>S</i> -transferase
HCl	Hydrochloric acid
H ₂ O ₂	Hydrogen peroxide
HPLC	High Performance Liquid Chromatography
IgG	Immunoglobulin G
KCl	Potassium chloride
KH ₂ PO ₄	Potassium dihydrogen phosphate
L	Litre
M	Molar
mg	Milligram
MgCl ₂ ·6H ₂ O	Magnesium chloride hexahydrate
min	Minute
ml	Millilitre
mM	Millimolar
Na ₂ HPO ₄	Disodium hydrogen phosphate
Na ₂ HPO ₄ ·2H ₂ O	Disodium hydrogen phosphate dihydrate
NaCl	Sodium chloride
Na ₂ CO ₃	Sodium carbonate

NaNO ₂	Sodium nitrite
NaOH	Sodium hydroxide
NSS	Normal saline solution
OD	Optical density
PBS	Phosphate buffer saline
PCNA	Proliferation cell nuclear antigen
PMSF	Phenylmethanesulphonylfluoride
<i>s.c.</i>	Subcutaneous
TCA	Trichloroacetic acid
TLC	Thin Layer Chromatography
TPBS	Tween-20 phosphate buffer saline
UDP-GA	UDP-glucuronic acid
UGT	UDP-glucuronyl transferase
v/v	Volume by Volume
w/v	Weight by Volume

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ข้อความแห่งการริเริ่ม

สาหร่ายเตาเป็นสาหร่ายน้ำจืดสีเขียว นิยมนำมาประกอบเป็นอาหารทางภาคเหนือของประเทศไทย ปัจจุบันมีการศึกษาเกี่ยวกับฤทธิ์ป้องกันมะเร็งของสาหร่ายเตาในสัตว์ทดลองน้อย มะเร็งลำไส้ใหญ่เป็นมะเร็งที่พบมากเป็นอันดับต้นๆ ในประเทศไทย และเป็นสาเหตุการตายของประชากรไทยทั้งเพศชาย และหญิง จากงานวิจัยจำนวนมากที่รายงานเกี่ยวกับการรับประทานผัก และผลไม้สามารถลดความเสี่ยงของการเกิดมะเร็ง รวมถึงมะเร็งลำไส้ใหญ่ ดังนั้นงานวิจัยนี้จึงทำการศึกษาฤทธิ์ก่อมะเร็ง และต้านมะเร็งของสารสกัดสาหร่ายเตาต่อกระบวนการเกิดมะเร็งลำไส้ใหญ่ที่ถูกเหนี่ยวนำด้วยสารเคมีทั้งในสถานะที่มี และไม่มีการอักเสบร่วมด้วยในสัตว์ทดลอง นอกจากนี้ยังศึกษากลไกการป้องกันมะเร็ง และสารออกฤทธิ์ที่พบในสารสกัดเตา

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STATEMENTS OF ORIGINALITY

Spirogyra neglecta, a freshwater green alga, is used as a traditional food in northern Thailand. Nowadays, there are a few studies on the cancer chemopreventive properties of *S. neglecta* in animal model. In Thailand, colorectal cancer becomes the most common and leading causes of cancer death in male and female. Several studies have been reported that high intake of vegetables and fruits decreases the risk of cancers, including colorectal cancer. Accordingly, this study investigated carcinogenicity and anticarcinogenicity of *S. neglecta* extracts on either chemical or inflammation associated colorectal carcinogenesis in animal models and explored their preventive mechanisms as well as determined the possible active ingredients.

The seal of Chiang Mai University is a circular emblem. In the center is a detailed illustration of an elephant standing and facing left. Above the elephant is a five-pointed star. The entire central design is enclosed within a circular border. The text "CHIANG MAI UNIVERSITY 1964" is written in a serif font along the bottom half of the inner circle. Thai script is visible along the top half of the inner circle.

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