

천연물응용과학, 개요

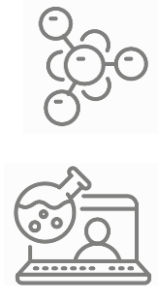
천연물응용과학은



동식물 및 미생물 유래 **천연물을 연구**하여
다양한 질환을 개선 또는 치료할 수 있는 **기능성 소재를 개발**하고,
이들을 산업화와 연계하여 **바이오산업에 응용**할 수 있는 전공입니다.

천연물응용과학 전공 내에

천연물 생리활성, 천연물 화학, 천연물 정보학, 기능성 식품학,
식물재배 생리학, 농업 공학 등 **다학제 융합연구**를 포함하고 있습니다.



또한 **창의적인 연구 플랫폼**과

천연물과학 관련 **최신 연구동향**을 반영하는 교과목도 개설함으로써,
균형잡힌 교과과정을 제공합니다.



천연물응용과학, 교과과정

천연물 화학

(Natural Products Chemistry)

천연물 생리활성

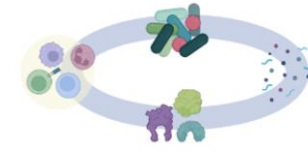
(Biological Activity of Natural Products)

분자생물학특론

(Topics in Molecular Biology)

천연물 연구동향

(Trends in Natural Products Research)



천연물 재배생리학

(Natural Product cultivation and physiology)

천연물 실험동물학

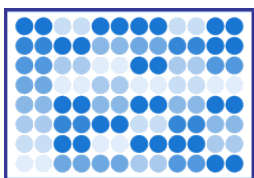
(Laboratory Animals in Natural Product Research)

천연물 오믹스학

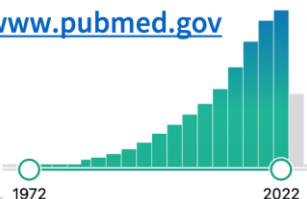
(Current Omics Technology for Natural Product Research)

천연물 영양과학

(Natural Products Nutritional Science)



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천연물응용과학: 대표연구자



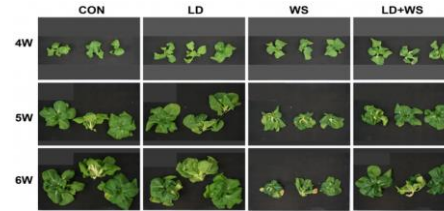
노주원 교수



Smart T-farm



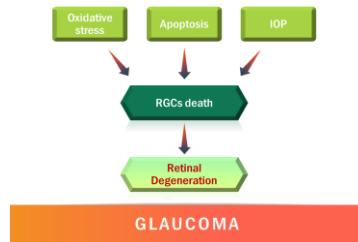
Smart U-farm



Vertically farmed **super bok choy** with 2.4 times the glucosinolate, twice the biomass



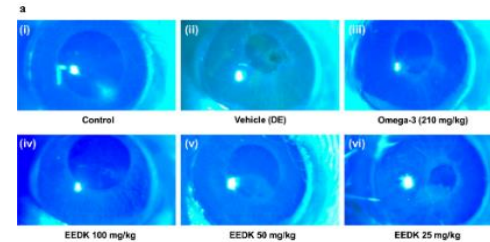
정상훈 교수



Eye research

번호	이름	양성분 (%)	번호	이름	양성분 (%)
1	Catechin	0.33	18	Kaempferol	0.13
2	Quercetin	0.28	19	Benzoic acid	0.89
3	Epigallocatechin gallate	N/D	20	Chlorogenic acid	0.38
4	Gallic acid	0.10	21	Benzoquinone	0.97
5	Hydroquinone	0.26	22	Protocatechuic acid	1.25
6	Resveratrol	0.45	23	2,4-Dihydroxybenzoic acid	0.82
7	Quercetin-3-O-β-D-glucopyranoside	0.16	24	Chloroacetic acid	2.82
8	Quercetin-3-O-β-D-galactopyranoside	0.48	25	Shikimic acid	1.44
9	Kaempferol-3-O-β-D-glucopyranoside	0.30	26	p-Hydroxyacetophenone	N/D
10	Anthracene	0.72	27	Acetylacetone	N/D
11	Kaempferol-3-O-β-D-galloylglucuronide	0.31	28	Quercetin	N/D
12	Kaempferol-3-O-β-D-glucuronide	0.10	29	Sorbic acid	N/D
13	Kaempferol-3-O-β-D-galloylglucuronide	0.08	31	Isosalicylic acid	N/D
14	Quercetin-3-O-β-D-glucuronide	0.01	32	Chloroacetic acid	N/D
15	Quercetin	0.09	33	Chloroacetic acid	N/D
16	Kaempferol-3-O-β-D-glucuronide	0.01	34	Kaempferol-3-O-β-D-glucopyranoside	N/D
17	Kaempferol-3-O-β-D-glucuronide	0.01	34	Kaempferol-3-O-β-D-glucopyranoside	11.78

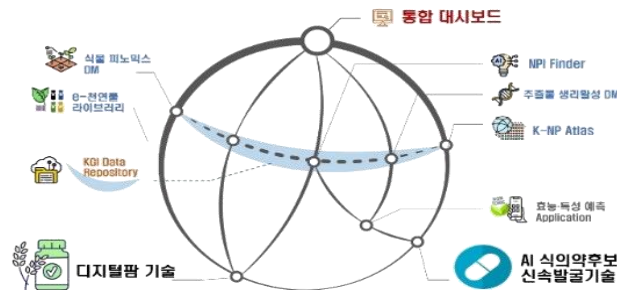
Standardization of natural products



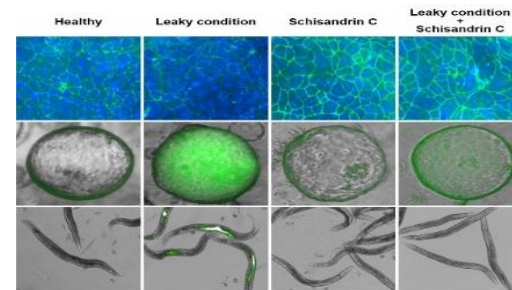
Development of functional food and natural medicines



강경수 교수



Natural Product Informatics (NPI)
AI-base discovery of new bioactive NP



Gut biomimetic system & modulation of Gut-organ axis by using bioactive NP

천연물응용과학, 교수진

스마트팜연구센터

SMART FARM
CONVERGENCE
RESEARCH
CENTER

Cultivation optimization,
analysis of variations
caused by cultivation
season and regional
differences and
enhancement of useful
secondary metabolites,
component analysis
and augmentation of
functional components



김상민



김호연



노주원



유지혜

천연물소재연구센터

NATURAL
PRODUCT
RESEARCH
CENTER

Investigation of
active components,
analysis of
bioactivity,
industrialization



김명석



김수남



김준기



김진철



김태정



이욱빈



이재욱



정상훈



최용수



함정엽

NATURAL
PRODUCT
INFORMATICS
RESEARCH
CENTER

Natural product
database development
and targeting/
functionality/efficacy
prediction

천연물인포매틱스연구센터



강경수



권재영



송대근



이충구



차광현



판철호