DOKUMENT

Meno a priezvisko	Doc. Ing. Jana Moravčíková, PhD.
Typ dokumentu	Vedecko/umelecko-pedagogická charakteristika osoby
Názov vysokej školy	Univerzita sv. Cyrila a Metoda v Trnave
Sídlo vysokej školy	Nám. J. Herdu 2, 917 01 Trnava
Názov fakulty	Fakulta prírodných vied
Sídlo fakulty	Nám. J. Herdu 2, 917 01 Trnava

I. - Základné údaje

I.1 - Priezvisko

Moravčíková

I.2 - Meno

Jana

I.3 - Tituly

doc. Ing. PhD

I.4 - Rok narodenia

1965

I.5 - Názov pracoviska

Univerzita sv. Cyrila a Metoda v Trnave, Fakulta prírodných vied, Katedra biotechnológií

I.6 - Adresa pracoviska

Trnava, Nám. J. Herdu 577/ 2, Slovenská republika

I.7 - Pracovné zaradenie

docent

I.8 - E-mailová adresa

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I.9 - Hyperlink na záznam osoby v Registri zamestnancov vysokých škôl

https://www.portalvs.sk/regzam/detail/30492

I.10 - Názov študijného odboru, v ktorom osoba pôsobí na vysokej škole

Biotechnológie

I.11 - ORCID iD

https://orcid.org/0000-0003-2801-8870

II. - Vysokoškolské vzdelanie a ďalší kvalifikačný rast

II.1 - Vysokoškolské vzdelanie prvého stupňa

II.2 - Vysokoškolské vzdelanie druhého stupňa

II.a - Názov vysokej školy alebo inštitúcie

Chemicko-technologická fakulta, Slovenská technická univerzita v Bratislave

II.b - Rok

1988

II.c - Odbor a program

potravinársko-biochemický smer, technológia mlieka a tukov

II.3 - Vysokoškolské vzdelanie tretieho stupňa

II.a - Názov vysokej školy alebo inštitúcie

Univerzita Komenského v Bratislave, Prírodovedecká fakulta

II.b - Rok

2001

II.c - Odbor a program

15-03-09 Genetika

II.4 - Titul docent

II.a - Názov vysokej školy alebo inštitúcie

Slovenská poľnohospodárska univerzita v Nitre, Fakulta biotechnológie a potravinárstva

II.b - Rok

2017

II.c - Odbor a program

Agrobiotechnológie

II.5 - Titul profesor

II.6 - Titul DrSc.

III. - Súčasné a predchádzajúce zamestnania

III.a - Zamestnanie-pracovné zaradenie	III.b - Inštitúcia	III.c - Časové vymedzenie
VŠ pedagóg, docent	Fakulta prírodných vied, Katedra biotechnológií, UCM v Trnave	2018-trvá
samostatný vedecký pracovník IIa (2007-2018), vedecký pracovník (2001-2007) , doktorandské štúdium (1996-2001)	Slovenská akadémia vied, Centrum biológie a biodiverzity rastlín, Ústav genetiky a biotechnológií rastlín	1996-2018
pracovník výstupnej kontroly kvality	Agromilk a.s. Nitra	1988-1995

V. - Prehľad aktivít v rámci pedagogického pôsobenia na vysokej škole

V.1 - Prehľad zabezpečovaných profilových študijných predmetov v aktuálnom akademickom roku podľa študijných programov

V.1.a - Názov profilového predmetu	V.1.b - Študijný program	V.1.c - Stupeň	V.1.d - Študijný odbor
Bilančné systémy v biotechnológiách	Biotechnológie	Bc	Biotechnológie
Základy biotechnologických procesov a zariadení	Biotechnológie	Bc	Biotechnológie
Regulácia a biologická bezpečnosť biotechnológií	Biotechnológie	Bc	Biotechnológie
Základy bioinžinierstva	Biotechnológie	Mgr.	Biotechnológie
Laboratórne cvičenia z in vitro systémov rastlín	Biotechnológie	Mgr.	Biotechnológie

V.2 - Prehľad o zodpovednosti za uskutočňovanie, rozvoj a zabezpečenie kvality

študijného programu alebo jeho časti na vysokej škole v aktuálnom akademickom roku

V.2.a - Názov študijného programu	V.2.b - Stupeň	V.2.c - Študijný odbor
Biotechnológie - člen odborovej komisie	III.	Biotechnológie

V.4 - Prehľad vedených záverečných prác

V.4.1 - Počet aktuálne vedených prác

V.4.a - Bakalárske (prvý stupeň)

2

V.4.b - Diplomové (druhý stupeň)

1

V.4.2 - Počet obhájených prác

V.4.a - Bakalárske (prvý stupeň)

2

V.4.b - Diplomové (druhý stupeň)

6

V.4.c - Dizertačné (tretí stupeň)

3 školiteľ/4 konzultant

V.5 - Prehľad zabezpečovaných ostatných študijných predmetov podľa študijných programov v aktuálnom akademickom roku

V.5.a - Názov predmetu	V.5.b - Študijný program	V.5.c - Stupeň	V.5.d - Študijný odbor
Materiálové a energetické bilancie v životnom prostredí	Ochrana a obnova životného prostredia	Mgr.	7. Ekologické a environmentálne vedy
Nanobiotechnológie	Biotechnológie	Mgr.	Biotechnológie
			Biotechnológie

VI. - Prehľad výsledkov tvorivej činnosti

VI.1 - Prehľad výstupov tvorivej činnosti a ohlasov na výstupy tvorivej činnosti

VI.1.1 - Počet výstupov tvorivej činnosti

VI.1.a - Celkovo

67

VI.1.b - Za posledných šesť rokov

16

VI.1.2 - Počet výstupov tvorivej činnosti registrovaných v databázach Web of Science alebo Scopus

VI.1.a - Celkovo

67

VI.1.b - Za posledných šesť rokov

16

VI.1.3 - Počet ohlasov na výstupy tvorivej činnosti

VI.1.a - Celkovo

790 (WOS)

VI.1.b - Za posledných šesť rokov

446 (2019-2024) (WOS)

VI.1.4 - Počet ohlasov registrovaných v databázach Web of Science alebo Scopus na výstupy tvorivej činnosti

VI.1.a - Celkovo

790 (WOS)

VI.1.b - Za posledných šesť rokov

446 (WOS)

VI.1.5 - Počet pozvaných prednášok na medzinárodnej a národnej úrovni

VI.1.a - Celkovo

9

VI.1.b - Za posledných šesť rokov

0

VI.2 - Najvýznamnejšie výstupy tvorivej činnosti

1. Poloniova Z, Jopcik M, Matusikova I, Libantova J, Moravcikova J (2015) The pollen- and embryo-specific Arabidopsis DLL promoter bears good potential for application in marker-free Cre/loxP self-excision strategy. Plant Cell Reports 34 (3):469-481. doi:10.1007/s00299-014-1726-0

2. Dubas E, Moravcikova J, Libantova J, Matusikova I, Benkova E, Zur I, Krzewska M (2014) The influence of heat stress on auxin distribution in transgenic B-napus microspores and microspore-derived embryos. Protoplasma 251 (5):1077-1087. doi:10.1007/s00709-014-0616-1

3. Boszoradova E, Libantova J, Matusikova I, Poloniova Z, Jopcik M, Berenyi M, Moravcikova J (2011) Agrobacterium-mediated genetic transformation of economically important oilseed rape cultivars. Plant Cell Tissue and Organ Culture 107 (2):317-323. doi:10.1007/s11240-011-9982-y

4. Moravcikova J, Vaculkova E, Bauer M, Libantova J (2008) Feasibility of the seed specific cruciferin C promoter in the self excision Cre/loxP strategy focused on generation of marker-free transgenic plants. Theoretical and Applied Genetics 117 (8):1325-1334. doi:10.1007/s00122-008-0866-4

5. Matusikova I, Salaj J, Moravcikova J, Mlynarova L, Nap JP, Libantova J (2005) Tentacles of in vitro-grown round-leaf sundew (Drosera rotundifoliaL.) show induction of chitinase activity upon mimicking the presence of prey. Planta 222 (6):1020-1027. doi:10.1007/s00425-005-0047-5

VI.3 - Najvýznamnejšie výstupy tvorivej činnosti za ostatných šesť rokov

1. Boszoradova E, Matusikova I, Libantova J, Zimova M, Moravcikova J (2019) Cre-mediated marker gene removal for production of biosafe commercial oilseed rape. Acta Physiologiae Plantarum 41 (6). doi:10.1007/s11738-019-2865-2

2.
Karas, M, Vešelényiová, D., Boszorádová, E, Nemeček, P, Gerši, Z, Moravčíková, J (2024). Comparative Analysis of Dehydrins from Woody Plant Species. In Biomolecules : Open Access Journal, 2024, vol. 14, no. 3, art. no. 250.

3.
Zielinski K, Dubas E, Gersi Z, Krzewska M, Janas A, Nowicka A, Matusikova I, Zur I, Sakuda S, Moravcikova J (2021) beta-1,3-Glucanases and chitinases participate in the stress-related defence mechanisms that are possibly connected with modulation of arabinogalactan proteins (AGP) required for the androgenesis initiation in rye (Secale cereale L.). Plant Science 302. doi:10.1016/j.plantsci.2020.110700

4. Zielinski K, Krzewska M, Zur I, Juzon K, Kopec P, Nowicka A, Moravcikova J, Skrzypek E, Dubas E (2020) The effect of glutathione and mannitol on androgenesis in anther and isolated microspore cultures of rye (Secale cereale L.). Plant Cell Tissue and Organ Culture 140 (3):577-592. doi:10.1007/s11240-019-01754-9

5.
Fischerová, L., Gemperlová, L., Cvikrová, M., Matušíková, I., Moravčíková, J., Gerši, Z., Malbeck, J., Kuderna, J., Pavlíčková, J., Motyka, V. and Eliášová, K., 2022. The humidity level matters during the desiccation of Norway spruce somatic embryos. *Frontiers in Plant Science*, *13*, p.968982.

6.
Švecová, M., Boszorádová, E., Matušíková, I., Gerši, Z., Nemeček, P., Bardáčová, M., Ranušová, P., Karas, M. and Moravčíková, J., 2023. Arabidopsis AtLTI30 and AtHIRD11 dehydrin genes and their contribution to cadmium tolerance in transgenic tobacco plants. *Acta Physiologiae Plantarum*, *45*(2), p.21.

7.
Mihalik, D., Lančaričová, A., Mrkvova, M., Kaňuková, Š., Moravčíková, J., Glasa, M., Šubr, Z., Predajňa, L., Hančinský, R., Grešíková, S. and Havrlentova, M., 2020. Diacylglycerol acetyltransferase gene isolated from Euonymus europaeus L. altered lipid metabolism in transgenic plant towards the production of acetylated triacylglycerols. *Life*, *10*(9), p.205.

8.
Gálusová, T., Piršelová, B., Rybanský, Ľ., Krasylenko, Y., Mészáros, P., Blehová, A., Bardáčová, M., Moravčíková, J. and Matušíková, I., 2020. Plasticity of soybean stomatal responses to arsenic and cadmium at the whole plant level. *Pol. J. Environ. Stud*, *29*, pp.3569-3580.

9.
Maglovski, M., Gerši, Z., Rybanský, Ľ., Bardáčová, M., Moravčíková, J., Bujdoš, M., Dobrikova, A., Apostolova, E., Kraic, J., Blehová, A. and Matušíková, I., 2019. Effects of nutrition on wheat photosynthetic pigment responses to arsenic stress. *Polish Journal of Environmental Studies*, *28*(3), pp.1821-1829.

10.
Durechova, D., Jopcik, M., Rajninec, M., Moravcikova, J. and Libantova, J., 2019. Expression of Drosera rotundifolia chitinase in transgenic tobacco plants enhanced their antifungal potential. *Molecular Biotechnology*, *61*, pp.916-928.

VI.4 - Najvýznamnejšie ohlasy na výstupy tvorivej činnosti

1.
Matusikova I, Salaj J, Moravcikova J, Mlynarova L, Nap JP, Libantova J (2005) Tentacles of in vitro-grown round-leaf sundew (Drosera rotundifoliaL.) show induction of chitinase activity upon mimicking the presence of prey. Planta 222 (6):1020-1027. doi:10.1007/s00425-005-0047-

1. Adamec L, Matusíková I, Pavlovic A (2021) Recent ecophysiological, biochemical and evolutional insights into plant carnivory. Annals of Botany 128 (3):241-259. doi:10.1093/aob/mcab071
2. Arai N, Ohno Y, Jumyo S, Hamaji Y, Ohyama T (2021) Organ-specific expression and epigenetic traits of genes encoding digestive enzymes in the lance-leaf sundew (<i>Drosera adelae</i>). Journal of Experimental Botany 72 (5):1946-1961. doi:10.1093/jxb/eraa560
3. Egan PA, van der Kooy F (2013) Phytochemistry of the Carnivorous Sundew Genus Drosera (Droseraceae) - Future Perspectives and Ethnopharmacological Relevance. Chemistry & Biodiversity 10 (10):1774-1790. doi:10.1002/cbdv.201200359
4. Eilenberg H, Pnini-Cohen S, Schuster S, Movtchan A, Zilberstein A (2006) Isolation and characterization of chitinase genes from pitchers of the carnivorous plant <i>Nepenthes khasiana</i>. Journal of Experimental Botany 57 (11):2775-2784. doi:10.1093/jxb/erl048
5. Ellison AM, Adamec L (2018) Carnivorous Plants Physiology, ecology, and evolution Preface. Carnivorous Plants: Physiology, Ecology, and Evolution.
6. Fukushima K, Fang XD, Alvarez-Ponce D, Cai HM, Carretero-Paulet L, Chen C, Chang TH, Farr KM, Fujita T, Hiwatashi Y, Hoshi Y, Imai T, Kasahara M, Librado P, Mao LK, Mori H, Nishiyama T, Nozawa M, Pálfalvi G, Pollard ST, Rozas J, Sánchez-Gracia A, Sankoff D, Shibata TF, Shigenobu S, Sumikawa N, Uzawa T, Xie MY, Zheng CF, Pollock DD, Albert VA, Li SC, Hasebe M (2017) Genome of the pitcher plant <i>Cephalotus</i> reveals genetic changes associated with carnivory. Nature Ecology & Evolution 1 (3). doi:10.1038/s41559-016-0059
7. Goh HH, Baharin A, Salleh FIM, Ravee R, Zakaria W, Noor NM (2020) Transcriptome-wide shift from photosynthesis and energy metabolism upon endogenous fluid protein depletion in young <i>Nepenthes ampullaria</i> pitchers. Scientific Reports 10 (1). doi:10.1038/s41598-020-63696-z
8. Holubová L, Svubová R, Slováková L, Bokor B, Krocková VC, Rencko J, Uhrin F, Medvecká V, Zahoranová A, Gálová E (2021) Cold Atmospheric Pressure Plasma Treatment of Maize Grains-Induction of Growth, Enzyme Activities and Heat Shock Proteins. International Journal of Molecular Sciences 22 (16). doi:10.3390/ijms22168509
9. Jaksová J, Libiaková M, Bokor B, Petrík I, Novák O, Pavlovic A (2020) Taste for protein: Chemical signal from prey stimulates enzyme secretion through jasmonate signalling in the carnivorous plant Venus flytrap. Plant Physiology and Biochemistry 146:90-97. doi:10.1016/j.plaphy.2019.11.013
10. Kangabam L (2023) The Hunters in Green. Resonance-Journal of Science Education 28 (10):1513-1522. doi:10.1007/s12045-023-1688-z
11. Kocab O, Bacovcinova M, Bokor B, Sebela M, Lenobel R, Schöner CR, Schöner MG, Pavlovic A (2021) Enzyme activities in two sister-species of carnivorous pitcher plants (<i>Nepenthes</i>) with contrasting nutrient sequestration strategies. Plant Physiology and Biochemistry 161:123-131. doi:10.1016/j.plaphy.2021.01.049
12. Kocáb O, Jaksová J, Novák O, Petrík I, Lenobel R, Chamrád I, Pavlovic A (2020) Jasmonate-independent regulation of digestive enzyme activity in the carnivorous butterwort <i>Pinguicula</i> x <i>Tina</i>. Journal of Experimental Botany 71 (12):3749-3758. doi:10.1093/jxb/eraa159
13. Kostoláni D, Yemeli GBN, Svubová R, Kyzek S, Machala Z (2021) Physiological Responses of Young Pea and Barley Seedlings to Plasma-Activated Water. Plants-Basel 10 (8). doi:10.3390/plants10081750
14. Krausko M, Perutka Z, Sebela M, Samajová O, Samaj J, Novák O, Pavlovic A (2017) The role of electrical and jasmonate signalling in the recognition of captured prey in the carnivorous sundew plant <i>Drosera capensis</i>. New Phytologist 213 (4):1818-1835. doi:10.1111/nph.14352
15. Król E, Plachno BJ, Adamec L, Stolarz M, Dziubinska H, Trebacz K (2012) Quite a few reasons for calling carnivores 'the most wonderful plants in the world'. Annals of Botany 109 (1):47-64. doi:10.1093/aob/mcr249
16. Lambers H, Oliveira RS, Lambers H, Oliveira RS (2019) Biotic Influences: Carnivory. Plant Physiological Ecology, 3rd Edition. doi:10.1007/978-3-030-29639-1_17
17. Libantová J, Kämäräinen T, Moravcíková J, Matusíková I, Salaj J (2009) Detection of chitinolytic enzymes with different substrate specificity in tissues of intact sundew (<i>Drosera rotundifolia</i> L.). Molecular Biology Reports 36 (5):851-856. doi:10.1007/s11033-008-9254-z
18. Libiaková M, Floková K, Novák O, Slováková L, Pavlovic A (2014) Abundance of Cysteine Endopeptidase Dionain in Digestive Fluid of Venus Flytrap (<i>Dionaea</i> <i>muscipula</i> Ellis) Is Regulated by Different Stimuli from Prey through Jasmonates. Plos One 9 (8). doi:10.1371/journal.pone.0104424

19.Masouleh FY, Barzin G, Entezari M, Mahabadi TD, Pishkar L (2021) Non-Thermal Plasma Treatment of Black Cumin Seeds-Induction of Germination, Enzyme Activities, and Mineral Nutrients Uptake in Germination and Seedling Stages. Biology Bulletin 48 (SUPPL 2):S65-S74. doi:10.1134/s1062359021150115
20.Mithöfer A, Reichelt M, Nakamura Y (2014) Wound and insect-induced jasmonate accumulation in carnivorous <i>Drosera capensis</i>: two sides of the same coin. Plant Biology 16 (5):982-987. doi:10.1111/plb.12148
21.Naidoo Y, Heneidak S (2013) Morphological investigation of glandular hairs on <i>Drosera capensis</i> leaves with an ultrastructural study of the sessile glands. Botany-Botanique 91 (4):234-241. doi:10.1139/cjb-2012-0255
22.Paszota P, Escalante-Perez M, Thomsen LR, Risor MW, Dembski A, Sanglas L, Nielsen TA, Karring H, Thogersen IB, Hedrich R, Enghild JJ, Kreuzer I, Sanggaard KW (2014) Secreted major Venus flytrap chitinase enables digestion of Arthropod prey. Biochimica Et Biophysica Acta-Proteins and Proteomics 1844 (2):374-383. doi:10.1016/j.bbapap.2013.11.009
23.Pavlovic A, Jaksová J, Novák O (2017) Triggering a false alarm: wounding mimics prey capture in the carnivorous Venus flytrap (<i>Dionaea muscipula</i>). New Phytologist 216 (3):927-938. doi:10.1111/nph.14747
24.Pavlovic A, Koller J, Vrobel O, Chamrád I, Lenobel R, Tarkowski P (2024) Is the co-option of jasmonate signalling for botanical carnivory a universal trait for all carnivorous plants? Journal of Experimental Botany 75 (1):334-349. doi:10.1093/jxb/erad359
25.Pavlovic A, Krausko M, Adamec L (2016) A carnivorous sundew plant prefers protein over chitin as a source of nitrogen from its traps. Plant Physiology and Biochemistry 104:11-16. doi:10.1016/j.plaphy.2016.03.008
26.Pavlovic A, Krausko M, Libiaková M, Adamec L (2014) Feeding on prey increases photosynthetic efficiency in the carnivorous sundew <i>Drosera capensis</i>. Annals of Botany 113 (1):69-78. doi:10.1093/aob/mct254
27.Pavlovic A, Mithöfer A (2019) Jasmonate signalling in carnivorous plants: copycat of plant defence mechanisms. Journal of Experimental Botany 70 (13):3379-3389. doi:10.1093/jxb/erz188
28.Pavlovic A, Saganová M (2015) A novel insight into the cost-benefit model for the evolution of botanical carnivory. Annals of Botany 115 (7):1075-1092. doi:10.1093/aob/mcv050
29.Pavlovic A, Vrobel O, Tarkowski P (2023) Water Cannot Activate Traps of the Carnivorous Sundew Plant <i>Drosera capensis</i>: On the Trail of Darwin's 150-Years-Old Mystery. Plants-Basel 12 (9). doi:10.3390/plants12091820
30.Pet'ková M, Svubová R, Kyzek S, Medvecká V, Slováková L, Sevcovicová A, Gálová E (2021) The Effects of Cold Atmospheric Pressure Plasma on Germination Parameters, Enzyme Activities and Induction of DNA Damage in Barley. International Journal of Molecular Sciences 22 (6). doi:10.3390/ijms22062833
31.Psota V, Benesová K, Sachambula L, Havlová P (2010) The relationship between β-glucanase, chitinase, and galactomannan and selected technological parameters of spring barley caryopses (Hordeum vulgare L.) and malt. Kvasny Prumysl 56 (2):74-78. doi:10.18832/kp2010008
32.Ravee R, Salleh FIM, Goh HH (2018) Discovery of digestive enzymes in carnivorous plants with focus on proteases. Peerj 6. doi:10.7717/peerj.4914
33.Renner T, Specht CD (2012) Molecular and Functional Evolution of Class I Chitinases for Plant Carnivory in the Caryophyllales. Molecular Biology and Evolution 29 (10):2971-2985. doi:10.1093/molbev/mss106
34.Renner T, Specht CD (2013) Inside the trap: gland morphologies, digestive enzymes, and the evolution of plant carnivory in the Caryophyllales. Current Opinion in Plant Biology 16 (4):436-442. doi:10.1016/j.pbi.2013.06.009
35.Rottloff S, Miguel S, Biteau F, Nisse E, Hammann P, Kuhn L, Chicher J, Bazile V, Gaume L, Mignard B, Hehn A, Bourgaud F (2016) Proteome analysis of digestive fluids in <i>Nepenthes</i> pitchers. Annals of Botany 117 (3):479-495. doi:10.1093/aob/mcw001
36.Saganová M, Bokor B, Stolárik T, Pavlovic A (2018) Regulation of enzyme activities in carnivorous pitcher plants of the genus <i>Nepenthes</i>. Planta 248 (2):451-464. doi:10.1007/s00425-018-2917-7
37.Svubová R, Kyzek S, Medvecká V, Slováková L, Gálová E, Zahoranová A (2020) Novel insight at the Effect of Cold Atmospheric Pressure Plasma on the Activity of Enzymes Essential for the Germination of Pea (<i>Pisum sativum</i> L. cv. Prophet) Seeds. Plasma Chemistry and Plasma Processing 40 (5):1221-1240. doi:10.1007/s11090-020-10089-9
38.Svubová R, Slováková L, Holubová L, Rovnanová D, Gálová E, Tomeková J (2021) Evaluation of the Impact of Cold Atmospheric Pressure Plasma on Soybean Seed Germination. Plants-Basel 10

the Impact of Cold Atmospheric Pressure Plasma on Soybean Seed Germination. Plants-Basel 10 (1). doi:10.3390/plants10010177

39. Svubová R, Válková N, Bathoova M, Kyzek S, Gálová E, Medvecká V, Slováková L (2021) Enhanced <i>In situ</i> Activity of Peroxidases and Lignification of Root Tissues after Exposure to Non-Thermal Plasma Increases the Resistance of Pea Seedlings. Plasma Chemistry and Plasma Processing 41 (3):903-922. doi:10.1007/s11090-021-10160-z
40. Tienaho J, Reshamwala D, Karonen M, Silvan N, Korpela L, Marjomäki V, Sarjala T (2021) Field-Grown and In Vitro Propagated Round-Leaved Sundew (<i>Drosera rotundifolia</i> L.) Show Differences in Metabolic Profiles and Biological Activities. Molecules 26 (12). doi:10.3390/molecules26123581
41. Unhelkar MH, Duong VT, Enendu KN, Kelly JE, Tahir S, Butts CT, Martin RW (2017) Structure prediction and network analysis of chitinases from the Cape sundew, <i>Drosera capensis</i>. Biochimica Et Biophysica Acta-General Subjects 1861 (3):636-643. doi:10.1016/j.bbagen.2016.12.007
42. Vanda H, Mustafa NR, Verpoorte R, Klinkhamer PGL, Choi YH (2021) Natural deep eutectic solvents present in plant exudates? A case study on the saps of <i>Drosera</i> species. In: Verpoorte R, Witkamp GJ, Choi YH (eds) Eutectic Solvents and Stress in Plants, vol 97. Advances in Botanical Research. pp 253-269. doi:10.1016/bs.abr.2020.09.014

2.

Moravcikova J, Vaculkova E, Bauer M, Libantova J (2008) Feasibility of the seed specific cruciferin C promoter in the self excision Cre/loxP strategy focused on generation of marker-free transgenic plants. Theoretical and Applied Genetics 117 (8):1325-1334. doi:10.1007/s00122-008-0866-4

1. Amos PJ, Bozkulak EC, Qyang YB (2012) Methods of Cell Purification: A Critical Juncture for Laboratory Research and Translational Science. Cells Tissues Organs 195 (1-2):26-40. doi:10.1159/000331390
2. Dalla Costa L, Piazza S, Campa M, Flachowsky H, Hanke MV, Malnoy M (2016) Efficient heat-shock removal of the selectable marker gene in genetically modified grapevine. Plant Cell Tissue and Organ Culture 124 (3):471-481. doi:10.1007/s11240-015-0907-z
3. Éva C, Teglás F, Zelenyánszki H, Tamás C, Juhász A, Meszáros K, Tamás L (2018) Cold inducible promoter driven Cre-<i>lox</i> system proved to be highly efficient for marker gene excision in transgenic barley. Journal of Biotechnology 265:15-24. doi:10.1016/j.jbiotec.2017.10.016
4. Fei XW, Huang XD, Li ZJ, Li XH, He CH, Xiao S, Li YJ, Zhang XX, Deng XD (2023) Effect of marker-free transgenic <i>Chlamydomonas </i>on the control of <i>Aedes</i> mosquito population and on plankton. Parasites & Vectors 16 (1). doi:10.1186/s13071-022-05647-3
5. Hamzeh S, Motallebi M, Zamani MR, Jahromi ZM (2015) Selectable Marker Gene Removal and Expression of Transgene by Inducible Promoter Containing FFDD <i>Cis</i>-Acting elements in Transgenic Plants. Iranian Journal of Biotechnology 13 (3):1-9
6. Hoenicka H, Lehnhardt D, Nunna S, Reinhardt R, Jeltsch A, Briones V, Fladung M (2016) Level of tissue differentiation influences the activation of a heat-inducible flower-specific system for genetic containment in poplar (<i>Populus tremula</i> L.). Plant Cell Reports 35 (2):369-384. doi:10.1007/s00299-015-1890-x
7. Chen MY, Zhao FL, Chu WL, Bai MR, Zhang DM (2023) A review of tamoxifen administration regimen optimization for Cre/loxp system in mouse bone study. Biomedicine & Pharmacotherapy 165. doi:10.1016/j.biopha.2023.115045
8. Chong-Pérez B, Kosky RG, Reyes M, Rojas L, Ocaña B, Tejeda M, Pérez B, Angenon G (2012) Heat shock induced excision of selectable marker genes in transgenic banana by the Cre-<i>lox</i> site-specific recombination system. Journal of Biotechnology 159 (4):265-273. doi:10.1016/j.jbiotec.2011.07.031
9. Chong-Pérez B, Reyes M, Rojas L, Ocaña B, Ramos A, Kosky RG, Angenon G (2013) Excision of a selectable marker gene in transgenic banana using a Cre/<i>lox</i> system controlled by an embryo specific promoter. Plant Molecular Biology 83 (1-2):143-152. doi:10.1007/s11103-013-0058-8
10. Kim WB, Lim CJ, Jang HA, Yi SY, Oh SK, Lee HY, Kim HA, Park YI, Kwon SY (2014) <i>SlPMEI</i>, a pollen-specific gene in tomato. Canadian Journal of Plant Science 94 (1):73-83. doi:10.4141/cjps2013-084
11. Kopertekh L, Schulze K, Frolov A, Strack D, Broer I, Schiemann J (2010) Cre-mediated seed-specific transgene excision in tobacco. Plant Molecular Biology 72 (6):597-605. doi:10.1007/s11103-009-9595-6
12. Mészáros K, Éva C, Kiss T, Bányai J, Kiss E, Téglás F, Láng L, Karsai I, Tamás L (2015) Generating

Marker-Free Transgenic Wheat Using Minimal Gene Cassette and Cold-Inducible Cre/Lox System. Plant Molecular Biology Reporter 33 (5):1221-1231. doi:10.1007/s11105-014-0830-1
13. Ostash B (2010) Site-Specific Recombinases in Genetic Engineering: Modern In Vivo Technologies. Cytology and Genetics 44 (4):244-251. doi:10.3103/s0095452710040109
14. Poles L, Licciardello C, Distefano G, Nicolosi E, Gentile A, La Malfa S (2020) Recent Advances of In Vitro Culture for the Application of New Breeding Techniques in Citrus. Plants-Basel 9 (8). doi:10.3390/plants9080938
15. Poloniová Z, Dubnicky P, Gálová Z, Libantová J, Matusíková I, Moravcíková J (2013) PLANT TRANSFORMATION VECTORS AND THEIR STABILITY IN <i>AGROBACTERIUM TUMEFACIENS</i>. Journal of Microbiology Biotechnology and Food Sciences 2:1559-1568
16. Song GQ, Sink KC, Ma YM, Herlache T, Hancock JF, Loescher WH (2010) A novel mannose-based selection system for plant transformation using celery mannose-6-phosphate reductase gene. Plant Cell Reports 29 (2):163-172. doi:10.1007/s00299-009-0809-9
17. Tuteja N, Verma S, Sahoo RK, Raveendar S, Reddy I (2012) Recent advances in development of marker-free transgenic plants: Regulation and biosafety concern. Journal of Biosciences 37 (1):167-197. doi:10.1007/s12038-012-9187-5
18. Wang BB, Zhang Y, Zhao J, Dong ML, Zhang JF (2018) Heat-Shock-Induced Removal of Transgenes Using the Gene-Deletor System in Hybrid Aspen (<i>Populus tremula</i> x <i>P</i>. <i>tremuloides</i>). Genes 9 (10). doi:10.3390/genes9100484
19. Wang K, Liu HY, Du LP, Ye XG (2017) Generation of marker-free transgenic hexaploid wheat via an <i>Agrobacterium</i>-mediated co-transformation strategy in commercial Chinese wheat varieties. Plant Biotechnology Journal 15 (5):614-623. doi:10.1111/pbi.12660
20. Wang N, Arling M, Hoerster G, Ryan L, Wu E, Lowe K, Gordon-Kamm W, Jones TJ, Chilcoat ND, Anand A (2020) An Efficient Gene Excision System in Maize. Frontiers in Plant Science 11. doi:10.3389/fpls.2020.01298
21. Woo HJ, Suh SC, Cho YG (2011) Strategies for developing marker-free transgenic plants. Biotechnology and Bioprocess Engineering 16 (6):1053-1064. doi:10.1007/s12257-011-0519-3
22. Ye XD, Vaghchhipawala Z, Williams EJ, Fu CL, Liu JY, Lu FM, Hall EL, Guo SX, Frank L, Gilbertson LA (2023) Cre-mediated autoexcision of selectable marker genes in soybean, cotton, canola and maize transgenic plants. Plant Cell Reports 42 (1):45-55. doi:10.1007/s00299-022-02935-1
23. Yuan GS, Shi JX, Shi JH, He DD, Li YL, Du J, Zou CY, Ma LL, Pan GT, Shen YU (2023) Green tissue-targeted expression of the Cry1Ab/c gene in transgenic maize using the Cre/loxP system as an alternative strategy against lepidopteran pests. Journal of Economic Entomology 116 (5):1894-1901. doi:10.1093/jee/toad174
24. Yuan GS, Zeng C, Shi HY, Yang Y, Du J, Zou CY, Ma LL, Pan GT, Shen YU (2023) Engineered Expression of Vip3A in Green Tissues as a Feasible Approach for the Control of Insec

3.

Boszoradova E, Libantova J, Matusikova I, Poloniova Z, Jopcik M, Berenyi M, Moravcikova J (2011) Agrobacterium-mediated genetic transformation of economically important oilseed rape cultivars. Plant Cell Tissue and Organ Culture 107 (2):317-323. doi:10.1007/s11240-011-9982-y

1. Alahakoon AY, Tongson E, Meng W, Ye ZW, Russell DA, Chye ML, Golz JF, Taylor PWJ (2022) Overexpressing <i>Arabidopsis thaliana</i> <i>ACBP6</i> in transgenic rapid-cycling <i>Brassica napus</i> confers cold tolerance. Plant Methods 18 (1). doi:10.1186/s13007-022-00886-y
2. Bansal A, Kumari V, Taneja D, Sayal R, Das N (2012) Molecular cloning and characterization of granule-bound starch synthase I (GBSSI) alleles from potato and sequence analysis for detection of <i>cis</i>-regulatory motifs. Plant Cell Tissue and Organ Culture 109 (2):247-261. doi:10.1007/s11240-011-0090-9
3. Braatz J, Harloff HJ, Mascher M, Stein N, Himmelbach A, Jung C (2017) CRISPR-Cas9 Targeted Mutagenesis Leads to Simultaneous Modification of Different Homoeologous Gene Copies in Polyploid Oilseed Rape (<i>Brassica napus</i>). Plant Physiology 174 (2):935-942. doi:10.1104/pp.17.00426
4. Ding YQ, Zhang DY, Yin GY, Wang WJ (2017) Approaches to improve the transgenic efficiency and to rescue seedlings from hyperhydricity for rapeseed (<i>Brassica napus</i>). European Journal of Horticultural Science 82 (6):306-310. doi:10.17660/eJHS.2017/82.6.5
5. Dronzeková D, Karas M, Boszoradová E, Zur I, Moravcíková J (2024) BIOCHEMICAL RESPONSES IN<i> AGROBACTERIUM-INFECTED</i> OILSEED RAPE EXPLANTS DURING EARLY STAGES OF REGENERATION IN THE PRESENCE OF DITHIOTHREITOL. Journal of Microbiology Biotechnology

and Food Sciences. doi:10.55251/jmbfs.11086

6. Gan QQ, Luan MB, Hu ML, Liu ZS, Zhang ZQ (2022) Functional study of <i>CYP90A1</i> and <i>ALDH3F1</i> gene obtained by transcriptome sequencing analysis of <i>Brassica napus</i> seedlings treated with brassinolide. Frontiers in Plant Science 13. doi:10.3389/fpls.2022.1040511
7. Gayatri T, Basu A (2020) Development of reproducible regeneration and transformation system for <i>Sesamum indicum</i>. Plant Cell Tissue and Organ Culture 143 (2):441-456. doi:10.1007/s11240-020-01931-1
8. Hao ZP, Feng ZB, Sheng L, Fei WX, Hou SM (2024) Facilitation of Sclerotinia sclerotiorum infestation by aphid feeding behaviour is not affected by aphid resistance in oilseed rape. Heliyon 10 (11). doi:10.1016/j.heliyon.2024.e32429
9. Hao ZP, Sheng L, Feng ZB, Fei WX, Hou SM (2024) Aphids May Facilitate the Spread of Sclerotinia Stem Rot in Oilseed Rape by Carrying and Depositing Ascospores. Journal of Fungi 10 (3). doi:10.3390/jof10030202
10. Choi JY, Shin JS, Chung YS, Hyung NI (2012) An efficient selection and regeneration protocol for <i>Agrobacterium</i>-mediated transformation of oriental melon (<i>Cucumis melo</i> L. var. <i>makuwa</i>). Plant Cell Tissue and Organ Culture 110 (1):133-140. doi:10.1007/s11240-012-0137-6
11. Chu UC, Kumar S, Sigmund A, Johnson K, Li YH, Vongdeuane P, Jones TJ (2020) Genotype-Independent Transformation and Genome Editing of <i>Brassica napus</i> Using a Novel Explant Material. Frontiers in Plant Science 11. doi:10.3389/fpls.2020.579524
12. Li XY, Fan J, Gruber J, Guan R, Frentzen M, Zhu LH (2013) Efficient selection and evaluation of transgenic lines of <i>Crambe abyssinica</i>. Frontiers in Plant Science 4. doi:10.3389/fpls.2013.00162
13. Li ZW, Ma SJ, Song H, Yang Z, Zhao CZ, Taylor D, Zhang M (2021) A <i>3</i>-<i>ketoacyl</i>-<i>CoA synthase</i> 11 (KCS11) homolog from <i>Malania oleifera</i> synthesizes nervonic acid in plants rich in 11Z-eicosenoic acid. Tree Physiology 41 (2):331-342. doi:10.1093/treephys/tpaa125
14. Liu F, Wang PD, Xiong XJ, Fu P, Gao HF, Ding XH, Wu G (2020) Comparison of three <i>Agrobacterium</i>-mediated co-transformation methods for generating marker-free transgenic <i>Brassica napus</i> plants. Plant Methods 16 (1). doi:10.1186/s13007-020-00628-y
15. Liu XX, Lang SR, Su LQ, Liu X, Wang XF (2015) Improved <i>Agrobacterium</i>-mediated transformation and high efficiency of root formation from hypocotyl meristem of spring <i>Brassica napus</i> 'Precocity' cultivar. Genetics and Molecular Research 14 (4):16840-16855. doi:10.4238/2015.December.14.11
16. Milojevic J, Tubic L, Nolic V, Mitic N, Calic-Dragosavac D, Vinterhalter B, Zdravkovic-Korac S (2012) Hygromycin promotes somatic embryogenesis in spinach. Plant Cell Tissue and Organ Culture 109 (3):573-579. doi:10.1007/s11240-012-0117-x
17. Narayanan SP, Alahakoon AY, Elliott CE, Russell D, Taylor PWJ, Lo CV, Chye ML (2023) Overexpression of rice acyl-CoA-binding protein OsACBP5 protects Brassica napus against seedling infection by fungal phytopathogens. Crop & Pasture Science 74 (5):459-469. doi:10.1071/cp22347
18. Pérez-Alonso N, Chong-Pérez B, Capote A, Pérez A, Izquierdo Y, Angenon G, Jiménez E (2014) <i>Agrobacterium tumefaciens</i>-mediated genetic transformation of <i>Digitalis purpurea</i> L. Plant Biotechnology Reports 8 (5):387-397. doi:10.1007/s11816-014-0329-0
19. Rathore DS, Doohan F, Mullins E (2016) Capability of the plant-associated bacterium, <i>Ensifer adhaerens</i> strain OV14, to genetically transform its original host <i>Brassica napus</i>. Plant Cell Tissue and Organ Culture 127 (1):85-94. doi:10.1007/s11240-016-1032-3
20. Sujatha M, Vijay S, Vasavi S, Reddy PV, Rao SC (2012) <i>Agrobacterium</i>-mediated transformation of cotyledons of mature seeds of multiple genotypes of sunflower (<i>Helianthus annuus</i> L.). Plant Cell Tissue and Organ Culture 110 (2):275-287. doi:10.1007/s11240-012-0149-2
21. Trajkovic M, Dragicevic M, Simonovic AD, Subotic AR, Milosevic S, Cingel A, Jevremovic S (2021) Alteration of Flower Color in <i>Viola cornuta</i> cv. "Lutea Splendens" through Metabolic Engineering of Capsanthin/Capsorubin Synthesis. Horticulturae 7 (9). doi:10.3390/horticulturae7090324
22. Trifunovic M, Cingel A, Simonovic A, Jevremovic S, Petric M, Dragicevic IC, Motyka V, Dobrev PI, Zahajská L, Subotic A (2013) Overexpression of <i>Arabidopsis</i> cytokinin oxidase/dehydrogenase genes <i>AtCKX1</i> and <i>AtCKX2</i> in transgenic <i>Centaurium erythraea</i> Rafn. Plant Cell Tissue and Organ Culture 115 (2):139-150. doi:10.1007/s11240-013-0347-6

013-0347-6

23. Uddain J, Subramaniam S (2020) Encapsulation-based a novel antibiotic selection technique for <i>Agrobacterium</i>-mediated genetic transformation of <i>Dendrobium</i> Broga Giant orchid. Gene Reports 21. doi:10.1016/j.genrep.2020.100806
24. Wang XL, Chen XL, Cheng QNZ, Zhu KZ, Yang XH, Cheng ZM (2019) <i>Agrobacterium</i>-mediated Transformation of <i>Kalanchoe</i> <i>laxiflora</i>. Horticultural Plant Journal 5 (5):221-228. doi:10.1016/j.hpj.2019.07.001
25. Xu L, Zeng LY, Ren L, Chen W, Liu F, Yang H, Yan RB, Chen KR, Fang XP (2020) Marker-free lines of <i>phytase</i>-transgenic <i>Brassica napus</i> show enhanced ability to utilize phytate. Plant Cell Tissue and Organ Culture 140 (1):11-22. doi:10.1007/s11240-019-01706-3
26. Zhang HJ, Gao P, Wang XZ, Luan FS (2014) An improved method of <i>Agrobacterium tumefaciens</i>-mediated genetic transformation system of melon (<i>Cucumis melo</i> L.). Journal of Plant Biochemistry and Biotechnology 23 (3):278-283. doi:10.1007/s13562-013-0211-0
27. Zhang ZY, Li GY, Wang JL, Gu XJ, Wang Z, Tan XL (2017) ESTABLISHMENT OF RAPESEED (<i>BRASSICA NAPUS</i> L.) COTYLEDON TRANSIENT TRANSFORMATION SYSTEM FOR GENE FUNCTION ANALYSIS. Pakistan Journal of Botany 49 (6):2227-2233

4.

Moravcikova J, Matusikova I, Libantova J, Bauer M, Mlynarova L (2004) Expression of a cucumber class III chitinase and Nicotiana plumbaginifolia class I glucanase genes in transgenic potato plants. Plant Cell Tissue and Organ Culture 79 (2):161-168. doi:10.1007/s11240-004-0656-x

1. Beliaev DV, Yourieva NO, Tereshonok DV, Derevyagina MK, Meleshin AA (2023) Early Blight Resistance of Transgenic Potato Plants Expressing the<i> ProSmAMP1</i> Gene for Antimicrobial Peptides under the Control of a Light-Inducible<i> Cab</i> Promoter. Russian Journal of Plant Physiology 70 (3). doi:10.1134/s1021443722700042
2. Ceasar SA, Ignacimuthu S (2012) Genetic engineering of crop plants for fungal resistance: role of antifungal genes. Biotechnology Letters 34 (6):995-1002. doi:10.1007/s10529-012-0871-1
3. Hall AJ, Morroll S, Tighe P, Götz F, Falcone FH (2008) Human chitotriosidase is expressed in the eye and lacrimal gland and has an antimicrobial spectrum different from lysozyme. Microbes and Infection 10 (1):69-78. doi:10.1016/j.micinf.2007.10.007
4. Hlinková E, Bobák M, Bauerová-Hlinková V, Rafay J (2010) Some Genetic, Biochemical and Morphological Analysis of Selected Powdery Mildew Strains at the Beginning of Sporulation on Barley. Notulae Botanicae Horti Agrobotanici Cluj-Napoca 38 (1):203-208
5. Chaudhary S, Lal M, Sagar S, Sharma S, Kumar M (2024) Black scurf of potato: Insights into biology, diagnosis, detection, host-pathogen interaction, and management strategies. Tropical Plant Pathology 49 (2):169-192. doi:10.1007/s40858-023-00622-4
6. Chouhan R, Ahmed S, Gandhi SG (2023) Over-expression of PR proteins with chitinase activity in transgenic plants for alleviation of fungal pathogenesis. Journal of Plant Pathology 105 (1):69-81. doi:10.1007/s42161-022-01226-8
7. Kahlon JG, Jacobsen HJ, Chatterton S, Hassan F, Bowness R, Hall LM (2018) Lack of efficacy of transgenic pea (<i>Pisum sativum</i> L.) stably expressing antifungal genes against <i>Fusarium spp.</i> in three years of confined field trials. Gm Crops & Food-Biotechnology in Agriculture and the Food Chain 9 (2):90-108. doi:10.1080/21645698.2018.1445471
8. Khan RS, Sjahril R, Nakamura I, Mii M (2008) Production of transgenic potato exhibiting enhanced resistance to fungal infections and herbicide applications. Plant Biotechnology Reports 2 (1):13-20. doi:10.1007/s11816-008-0043-x
9. Liu HB, Guo X, Naeem MS, Liu D, Xu L, Zhang WF, Tang GX, Zhou WJ (2011) Transgenic Brassica napus L. lines carrying a two gene construct demonstrate enhanced resistance against Plutella xylostella and Sclerotinia sclerotiorum. Plant Cell Tissue and Organ Culture 106 (1):143-151. doi:10.1007/s11240-010-9902-6
10. Ma XL, Milne RI, Zhou HX, Fang JY, Zha HG (2017) Floral nectar of the obligate outcrossing <i>Canavalia gladiata</i> (Jacq.) DC. (Fabaceae) contains only one predominant protein, a class III acidic chitinase. Plant Biology 19 (5):749-759. doi:10.1111/plb.12583
11. Mercado JA, Martín-Pizarro C, Pascual L, de los Santos B, Romero F, Quesada MA, Pliego-Alfaro F, Galvez J, Rey M, de la Viña G, Llobell A, Yubero-Serrano EM, Muñoz-Blanco J, Caballero JL (2007) Evaluation of tolerance of <i>Colletotrichum acutatum</i> in strawberry plants transformed with <i>Trichoderma</i>-derived genes. In: International Symposium on Biotechnology of Temperate Fruit Crops and Tropical Species, Daytona Beach, FL, Oct 10-14 2005. Acta Horticulturae. pp 383-+. doi:10.17660/ActaHortic.2007.738.46
12. Michalko J, Renner T, Mészáros P, Socha P, Moravcíková J, Blehová A, Libantová J, Polóniová Z

12. Michalko J, Renner T, Mészáros P, Socha P, Moravčíková J, Blehová A, Libantová J, Polóniová Z, Matusíková I (2017) Molecular characterization and evolution of carnivorous sundew (<i>Drosera rotundifolia</i> L.) class V β-1,3-glucanase. Planta 245 (1):77-91. doi:10.1007/s00425-016-2592-5
13. Moosa A, Farzand A, Sahi ST, Khan SA (2018) Transgenic expression of antifungal pathogenesis-related proteins against phytopathogenic fungi-15 years of success. Israel Journal of Plant Sciences 65 (1-2):38-54. doi:10.1080/07929978.2017.1288407
14. Ng DWK, Chandrasekharan MB, Hall TC (2006) Ordered histone modifications are associated with transcriptional poising and activation of the <i>phaseolin</i> promoter. Plant Cell 18 (1):119-132. doi:10.1105/tpc.105.037010
15. Parmar N, Singh KH, Sharma D, Singh L, Kumar P, Nanjundan J, Khan YJ, Chauhan DK, Thakur AK (2017) Genetic engineering strategies for biotic and abiotic stress tolerance and quality enhancement in horticultural crops: a comprehensive review. 3 Biotech 7. doi:10.1007/s13205-017-0870-y
16. Parveen S, Khan A, Jahan N, Aaliya K, Muzaffar A, Tabassum B, Inayatullah S, Moeezullah S, Tariq M, Rehmat Z, Ali N, Hussain A (2023) Expression of Chitinase and shRNA Gene Exhibits Resistance to Fungi and Virus. Genes 14 (5). doi:10.3390/genes14051090
17. Punja ZK (2006) Recent developments toward achieving fungal disease resistance in transgenic plants. Canadian Journal of Plant Pathology 28:S298-S308. doi:10.1080/07060660609507387
18. Raji MR, Lotfi M, Tohidfar M, Ramshini H, Sahebani N, Aalifar M, Baratian M, Mercati F, De Michele R, Carimi F (2022) Multiple fungal diseases resistance induction in <i>Cucumis melo</i> through co-transformation of different pathogenesis related (PR) protein genes. Scientia Horticulturae 297. doi:10.1016/j.scienta.2022.110924
19. Roy-Barman S, Raut RA, Sarkar A, Sabnam N, Chakraborty S, Saha P (2018) RECENT ADVANCES IN THE DEVELOPMENT OF TRANSGENIC CROP PLANTS, BIOSAFETY ASPECTS, AND FUTURE PERSPECTIVES. Plant Biotechnology, Vol 2: Transgenics, Stress Management, and Biosafety Issues.
20. Sandhu JS, Sidhu MK, Yadav IS (2017) Control of Fungal Diseases in Agricultural Crops by Chitinase and Glucanase Transgenes. In: Lichtfouse E (ed) Sustainable Agriculture Reviews, vol 25. Sustainable Agriculture Reviews. pp 163-212. doi:10.1007/978-3-319-48006-0_6
21. Shah JM, Singh R, Veluthambi K (2013) Transgenic rice lines constitutively co-expressing <i>tlp</i>-<i>D</i>34 and <i>chi</i>11 display enhancement of sheath blight resistance. Biologia Plantarum 57 (2):351-358. doi:10.1007/s10535-012-0291-z
22. Shakhbazau AV, Kartel NA (2008) Chitinases in bioengineering research. Russian Journal of Genetics 44 (8):881-889. doi:10.1134/s1022795408080012
23. Sripriya R, Parameswari C, Veluthambi K (2017) Enhancement of sheath blight tolerance in transgenic rice by combined expression of tobacco osmotin (<i>ap</i>24) and rice chitinase (<i>chi</i>11) genes. In Vitro Cellular & Developmental Biology-Plant 53 (1):12-21. doi:10.1007/s11627-017-9807-8

5.
Libantova J, Kamarainen T, Moravcikova J, Matusikova I, Salaj J (2009) Detection of chitinolytic enzymes with different substrate specificity in tissues of intact sundew (Drosera rotundifolia L.). Molecular Biology Reports 36 (5):851-856. doi:10.1007/s11033-008-9254-z

1. Ahmed NU, Park JI, Jung HJ, Kang KK, Hur Y, Lim YP, Nou IS (2012) Molecular characterization of stress resistance-related chitinase genes of <i>Brassica rapa</i>. Plant Physiology and Biochemistry 58:106-115. doi:10.1016/j.plaphy.2012.06.015
2. Ahmed NU, Park JI, Seo MS, Kumar TS, Lee IH, Park BS, Nou IS (2012) Identification and expression analysis of chitinase genes related to biotic stress resistance in Brassica. Molecular Biology Reports 39 (4):3649-3657. doi:10.1007/s11033-011-1139-x
3. Colas S, Afoufa-Bastien D, Jacquens L, Clément C, Baillieul F, Mazeyrat-Gourbeyre F, Monti-Dedieu L (2012) Expression and <i>In Situ</i> Localization of Two Major PR Proteins of Grapevine Berries during Development and after UV-C Exposition. Plos One 7 (8). doi:10.1371/journal.pone.0043681
4. Ellison AM, Adamec L (2018) Carnivorous Plants Physiology, ecology, and evolution Preface. Carnivorous Plants: Physiology, Ecology, and Evolution.
5. Goñi O, Sanchez-Ballesta MT, Merodio C, Escribano MI (2013) Two cold-induced family 19 glycosyl hydrolases from cherimoya (<i>Annona cherimola</i>) fruit: An antifungal chitinase and a cold-adapted chitinase. Phytochemistry 95:94-104. doi:10.1016/j.phytochem.2013.07.004
6. Chen JJ, Piao YL, Liu YM, Li XN, Piao ZY (2018) Genome-wide identification and expression analysis of chitinase gene family in <i>Brassica rapa</i> reveals its role in clubroot resistance. Plant Science 270:257-267. doi:10.1016/j.plantsci.2018.02.017
7. Jopcik M, Moravcikova J, Matusikova I, Bauer M, Rajninec M, Libantova J (2017) Structural and functional characterisation of a class I endochitinase of the carnivorous sundew (<i>Drosera rotundifolia</i> L.). Planta 245 (2):313-327. doi:10.1007/s00425-016-2608-1
8. Pavlovic A, Krausko M, Libiaková M, Adamec L (2014) Feeding on prey increases photosynthetic efficiency in the carnivorous sundew <i>Drosera capensis</i>. Annals of Botany 113 (1):69-78. doi:10.1093/aob/mct254
9. Pulla RK, Lee OR, In JG, Parvin S, Kim YJ, Shim JS, Sun H, Kim YJ, Senthil K, Yang DC (2011) Identification and characterization of class I chitinase in Panax ginseng C. A. Meyer. Molecular Biology Reports 38 (1):95-102. doi:10.1007/s11033-010-0082-6
10. Renner T, Specht CD (2012) Molecular and Functional Evolution of Class I Chitinases for Plant Carnivory in the Caryophyllales. Molecular Biology and Evolution 29 (10):2971-2985. doi:10.1093/molbev/mss106
11. Renner T, Specht CD (2013) Inside the trap: gland morphologies, digestive enzymes, and the evolution of plant carnivory in the Caryophyllales. Current Opinion in Plant Biology 16 (4):436-442. doi:10.1016/j.pbi.2013.06.009
12. Singh RK, Singh P, Li HB, Song QQ, Guo DJ, Solanki MK, Verma KK, Malviya MK, Song XP, Lakshmanan P, Yang LT, Li YR (2020) Diversity of nitrogen-fixing rhizobacteria associated with sugarcane: a comprehensive study of plant-microbe interactions for growth enhancement in <i>Saccharum</i> spp. Bmc Plant Biology 20 (1). doi:10.1186/s12870-020-02400-9
13. Su YC, Xu LP, Wang SS, Wang ZQ, Yang YT, Chen Y, Que YX (2015) Identification, Phylogeny, and Transcript of Chitinase Family Genes in Sugarcane. Scientific Reports 5. doi:10.1038/srep10708
14. Sueldo DJ, Godson A, Kaschani F, Krahn D, Kessenbrock T, Buscaill P, Schofield CJ, Kaiser M, van der Hoorn RAL (2024) Activity-based proteomics uncovers suppressed hydrolases and a <i>neo</i>-functionalised antibacterial enzyme at the plant-pathogen interface. New Phytologist 241 (1):394-408. doi:10.1111/nph.18857

VI.5 - Účasť na riešení (vedení) najvýznamnejších vedeckých projektov alebo umeleckých projektov za posledných šesť rokov

1.
VEGA 1/0230/24 (2024-2026) - zodpovedný riešiteľ
Názov projektu: Využitie nanoprimingu na zmierňovanie stresu u rastlín počas klíčenia (The use of nanopriming to mitigate abiotic stress in plants during their germination)

2.
VEGA 1/0525/20, 2020-2023 - zodpovedný riešiteľ
Názov projektu: Funkčná analýza úlohy dehydrínu z Quercus robur L. pri strese na ťažké kovy (Functional analysis of the role of dehydrin from Quercus robur L. under heavy metal stress)

3.
KEGA 001UCM-4/2022, 2022-2024- zodpovedný riešiteľ
Názov projektu: Implementácia nových vedeckých poznatkov a prístupov do edukačného procesu v oblasti biotechnológií (Implementation of new scientific knowledge and approaches to the educational process in the field of biotechnology)

4.
VEGA 2/0035/17, 2017-2019 - zodpovedný riešiteľ
Názov projektu: Štúdium funkcie génov dehydrínov z Arabidopsis thaliana pri tolerancii voči vybraným typom abiotického stresu (Studying of the function of dehydrin genes from Arabidopsis thaliana in the tolerance to selected types of abiotic stresses)

VII. - Prehľad aktivít v organizovaní vysokoškolského vzdelávania a tvorivých činností

VII.a - Aktivita, funkcia	VII.b - Názov inštitúcie, grémia	VII.c - Časové vymedzenia pôsobenia
Člen zboru expertov v Komisii pre biologickú bezpečnosť a jej zbore expertov	Ministerstvo životného prostredia	2021-doteraz
Člen Vedeckej grantovej agentúry MŠVVaŠ SR a SAV (VEGA) č. 8	Ministerstvo školstva, vedy, výskumu a športu Slovenskej republiky	2021-doteraz
Člen Vedeckej grantovej agentúry MŠVVaŠ SR a SAV (VEGA) č. 8	Ministerstvo školstva, vedy, výskumu a športu Slovenskej republiky	2016-2018

VIII. - Prehľad zahraničných mobilít a pôsobenia so zameraním na vzdelávanie a tvorivú činnosť v študijnom odbore

VIII.a - Názov inštitúcie	VIII.b - Sídlo inštitúcie	VIII.c - Obdobie trvania pôsobenia/pobytu (uviesť dátum odkedy dokedy trval pobyt)	VIII.d - Mobilitná schéma, pracovný kontrakt, iné (popísať)
Aarhus University, Department of Genetics and Biotechnology,	Kodaň, Dánsko	2007- 1 mesiac	Štúdijný pobyt v rámci schémy medzikademická dohoda SAV -Aarhus University
Plant Research International, BU Genomics	Wageningen, Holandsko	2002 -2 mesiace	štúdijný pobyt v rámci riešenia projektu partnerskej organizácie
Plant Research International, BU Genomics	Wageningen, Holandsko	2001 - 3 mesiace	štúdijný pobyt v rámci schémy UNESCO fellowship
Plant Research International, BU Genomics	Wageningen, Holandsko	1998- 3 mesiace	štúdijný pobyt v rámci riešenia spoločného projektu INCO-COPERNICUS
Agricultural Biotechnology Center	Gödölö, Maďarsko	1998 -1 mesiac	štúdijný pobyt v rámci riešenia spoločného projektu INCO-COPERNICUS

IX. - Iné relevantné skutočnosti

IX.a - Ak je to podstatné, uvádzajú sa iné aktivity súvisiace s vysokoškolským vzdelávaním alebo s tvorivou činnosťou

- publikačné výstupy v oblasti rastlinných biotechnológií
- sledovanie najnovších vedecko-výskumných trendov v oblasti biotechnológií a ich zapracovanie do pedagogického procesu
- vedecká spolupráca so zahraničnými vedecko-výskumnými laboratóriami
- zapojenie sa do akcií COST ako MC member (CA15223, FP 0905, FA1006)
- experimentálne zručnosti s analýzami v molekulárno-biochemickom laboratóriu na predchádzajúcom pracovisku (SAV) a na zahraničných pracoviskách v rámci štúdijných pobytov
- účasť na domácich a zahraničných konferenciách
- písanie, vedenie a riešenie vedecko-výskumných projektov
- podieľanie sa na písaní skrípt a učebných textov
- spolupráca s inými univerzitami na Slovensku (SPU v Nitre a UKF v Nitre)

Dátum poslednej aktualizácie

31.10.2024