Name: **Professor Dr. Raja Noor Zaliha Raja Abd. Rahman**
Nationality: Malaysian
Current Position: Head, Enzyme and Microbial Technology Research Centre, Universiti Putra Malaysia, Malaysia

Education

1989 B.Sc. in Microbiology, Universiti Sains Malaysia.
1994 MS in Biotechnology, Universiti Putra Malaysia
1998 Doctor of Engineering, Molecular Biology, Kyoto University, Kyoto Japan

Academic Positions and Employment

1998-2001 Lecture, Department of Biochemistry and Microbiology, Faculty of Science and Environmental Studies, UPM
2001-2003 Associate Professor, Department of Biochemistry and Microbiology, Faculty of Science and Environmental Studies, UPM
2004-2006 Associate Professor, Department of Microbiology, Faculty of Biotechnology & Biomolecular Sciences, UPM
2004-2005 Head Department, Department of Microbiology, Faculty of Biotechnology & Biomolecular Sciences, UPM
2006-2011 Deputy Dean (Research & Graduate Studies), Faculty of Biotechnology & Biomolecular Sciences, UPM
2007-to date Professor, Faculty of Biotechnology & Biomolecular Sciences, UPM
2013-to date Head, Enzyme and Microbial Technology Research Centre, Universiti Putra Malaysia, Malaysia

Other Experience and Professional Memberships

2011- to date Asian Pasific Protean Association (APPA) Council Committee
2012 Universiti Malaysia Terengganu, Ahli Lembaga Penasihat Program Sarjana Muda Sains (Biokimia dan Biologi Molekul) Jabatan Sains Biology, Fakulti Sains
2007-2010 Academic Advisor for Universiti Industri Selangor (UNISEL) 2. University Industry Malaysia
2006-to date Editorial Board of Pertanika Journal of Science & Technology
2006-2010 Chief Editor of BioTech Communication, FBSB
2004-2006 Archaea's Editorial Review Board
2002-to date Assessor for Malaysian Qualifications Agency (MQA) in the area Science and Applied Sciences and Molecular Biology and Biotechnology
2004-2006 Exco member, Malaysian Microbiology Society
2003-to date As an Expert in setting up National Biotechnology Criteria and Standards for National and Public Universities
2000-to date Life member, Malaysian Microbiology Society
2000-2004.1 PS-NRC/DOST/LIPI/VCC-Large-scale cooperative research program in the Field of Biotechnology

Research Area

1) Microbial screening for lipolytic and proteolytic microorganisms
2) Growth of microorganisms and production of enzymes
3) Genetic manipulation of microbes for enhancement of enzyme production and properties
4) Bioremediation
5) Purification and characterization of enzymes
6) Protein tailoring: Modification of proteins for enhancement of enzymic properties
7) Enzymic transformation of fats and oils (particularly palm oil fractions)
8) Stereoselective reactions of enzymes
9) Enzymic reactions in organic solvents
10) Mechanistic studies of enzymes in detergent formulation
11) Biosynthesis of surfactants
12) Microbial transformation of fats and oils

13) Structural Biology: Protein Structure and Function
14) Protein Crystallization-Ground and Microgravity
15) Product Scale-up for pre-commercialization

Completed Research Works (Project Leader)

1. Discovering lipase inhibitor compounds from Malaysian plants for obesity treatment
2. Space crystallization of Industryly Importance Proteins on board The Japanese Experimental Module (JEM)- ER (PS) BIOTEK
3. Space crystallization of Industrial enzymes onboard The Japanese Experimental Module (JEM)- Inisiatif GBMI)
4. Space Crystallization of Industrial Enzymes onboard The Japanese Experimental Module (JEM)
5. Detergent for Machine-Wash (DMW) Containing Locally Produced Thermostable Enzymes
6. The effect of microgravity on structure conformation of industrially important proteins.)- International Collaborative Research/Institute of Protein Research, Osaka University, Osaka, Japan
7. Comparative structural analysis of industrially important protein crystals grown conventionally to the crystals grown in space (2012).-)- International Collaborative Research/Institute of Protein Research, Osaka University, Osaka, Japan
8. Comparative structural analysis of industrially important protein crystals grown conventionally to the crystals grown in space (2011)-)- International Collaborative Research/Institute of Protein Research, Osaka University, Osaka, Japan
9. Production of New Novel Thermostable lipase for industrial application- Special CRDF –MTDC
10. Molecular engineering of an organic solvent tolerant lipase for biotechnological application-ScienceFund
11. Crystallization of industrially important enzymes/protein in space- Angkasawan ScienceFund;
12. Structure and function of extremophilic proteins, Topdown
13. Molecular cloning and expression of an organic solvent tolerant lipase gene from locally isolated Staphylococcus sp.-ScienceFund; Development of selected industrial enzymes/proteins from psychrophiles- R & D Initiative Biotechnology;
14. Understanding the behaviour of lipase S5 enzyme in the presence of organic solvents and water-FRGS;
15. Structure and function of extremophilic proteins, Top Down IRPA Grant;
16. Expression and characterization of organic solvent tolerant lipase from *Bacillus sphaericus* 205y-IRPA
17. Enhancement of enzymatic activity and thermostability of lipase- IRPA
18. Molecular cloning, sequencing and expression of organic tolerant lipase gene from locally isolated *Bacillus* sp.-IRPA
19. Cloning of thermostable lipase gene from locally isolated microorganism- UPM Short Term Research Grant;
20. Thermostable enzyme from hyperthermophilic microorganisms- UPM Short Term Research Grant;

On-Going Research (Project Leader)

1. Structural and functional analysis of extremophilic and microgravity influenced industrially important enzymes (2017)- International Collaborative Research/Institute of Protein Research, Osaka University, Osaka, Japan
2. Enzymatic Acidolysis Using Lipase from Geobacillus sp. strain ARM to Produce Cocoa Butter Substitute
3. Mixed Hydrolases for efficient and greener detergent machine-wash formulation

4. Structure investigation towards dechipering the structure and function of thermostable DNA polymerase isolated from *Geobacillus* sp.
5. Development and enhancement of eco-friendly automatic dishwashing detergent (ADD) containing enzymes for domestic and industrial use

Number of Postgraduate Students Supervised:

*Postgraduate	PhD	Master
Graduated	Main = 15 Co- = 19	Main = 25 Co- = 30
Ongoing	Main = 7 Co- = 8	Main = 6 Co- = 16

***International post-graduate students: 20 (Iran, Iraq, Libya, Indonesia, China, Thailand, Nigeria, Bangladeh, Yamen, Sudan)**

Awards of Merit

No	Award Title	Award Authority	Level	Year
1	Top Research Scientist Malaysia	Academy of Sciences Malaysia	National	2013
2	Knight Degree of The International Order of Merit Of Inventors	International Federation Invention Association (IFIA)	International	2009
3	National Intellectual Property Award 2008 (First Prize Winner Individual Category)	Malaysia Intellectual Property Corporation (MyIPO) and the Ministry of Local Entrepreneurship and Consumer Affairs (KPDNHEP).	National	2008
4	Saintis Cemerlang 2005	Kementerian Pendidikan Tinggi	National	2005
5	Vice Chancellor Fellowship Award (Excellence in Research)	University Putra Malaysia	University	2009
6	Excellence Researcher Award	University Putra Malaysia	University	2008
7	Excellent Service Award	University Putra Malaysia	University	2016
8	Excellent Service Award	University Putra Malaysia	University	2009
9	Excellent Service Award	University Putra Malaysia	University	2005
10	Excellent Service Award	University Putra Malaysia	University	2000

G. SENARAI PENERBITAN (Sila masukan nama pengarang, tajuk, nama jurnal, jilid, muka surat dan tahun diterbitkan) *(List of publications – author (s), title, journal, volume, page and year published)*

Journal

Current H index: 32, Citation: 3398
Publication total: 232
Recent publications: 2012 -2017

1. Jonathan Maiangwa, , Mohd Shukuri Mohamad Ali , Abu Bakar Salleh , Raja Noor Zaliha Raja Abd Rahman , Yahaya M. Normi , Fairolniza Mohd Shariff and Thean Chor Leow (2017). Lid opening and conformational stability of T1 Lipase is mediated by increasing chain length polar solvents. PeerJ 5:e3341; DOI 10.7717/peerj.3341
2. Ibrahim Musa Moi,Noordiyanah Nadhirah Roslan,Adam Thean Chor Leow,Mohd Shukuri Mohamad Ali,Raja Noor Zaliha Raja Abd. Rahman, Azam Rahimpour,Suriana Sabri (2017) The biology and the importance of Photobacterium species. Appl Microbiol Biotechnol (2017). doi:10.1007/s00253-017-8300-y
3. Norsyuhada Alias, Adam Thean Chor Leow, Mohd. Shukuri Mohamad Ali, Asilah Ahmad Tajudin Abu Bakar Salleh and Raja Noor Zaliha Raja Abd. Rahman (2017), Anti-obesity potential of selected tropical plants via pancreatic lipase inhibition. Adv Obes Weight Manag Control 6(4): 00163. DOI: 10.15406/aowmc.2017.06.00163
4. Nurul Hazwani Shamsudin1, Chee Fah Wong1*, Raja Noor Zaliha Raja Abd. Rahman2 and Mohd Shukuri Mohamad Ali2 (2017) Tight Repression Of Elastase Strain K Overexpression By Pt7 (A1/O4/O3) Shuttle Expression System. Galeri Warisan Sains 1(1) (2017) 20–22
5. Garba L, Mohamad Ali MS, Oslan SN, Rahman RNZRA (2017) Review on Fatty Acid Desaturases and their Roles in Temperature Acclimatisation. Journal of Applied Sciences ISSN 1812-5654, DOI: 10.3923/jas.2017.
6. Mohtar, N.S., Abdul Rahman, M.B. , Abd Rahman, R.N.Z.R., Leow, T.C., Salleh, A.B., Mat Isa, M.N (2016) Expression and characterization of thermostable glycogen branching enzyme from geobacillus mahadia Geo-05. PeerJ Volume 2016, Issue 12, 2016, Article number e2714 Open Access
7. Roswanira Abdul Wahaba, Mahiran Basri, Raja Noor Zaliha Raja Abdul Rahman, Abu Bakar Sallehd, Mohd Basyaruddin Abdul Rahmanb, Thean Chor Leow (2016) Facile modulation of enantioselectivity of thermophilic Geobacillus zalihae lipase by regulating hydrophobicity of its Q114 oxyanion. Enzyme and Microbial Technology. 93 :174–181
8. Ganasen, M., Yaacob, N., Rahman, R.N.Z.R.A., Leow, A.T.C., Basri, M., Salleh, A.B., Ali, M.S.M (2016) Cold-adapted organic solvent tolerant alkalophilic family I.3 lipase from an Antarctic Pseudomonas. International Journal of Biological Macromolecules, Volume 92, 1 November 2016, Pages 1266-1276
9. Wahhida Latip , Raja Noor Zaliha Raja Abd Rahman Corresp., , Adam Leow Thean Chor , Fairolniza Mohd Shariff , Mohd Shukuri Mohamad Ali (2016) Expression and characterization of thermotolerant lipase with broad pH profiles isolated from an Antarctic Pseudomonas sp strain AMS3. PeerJ Volume 2016, Issue 10, Article number e2420
10. Norhayati Yaacob, Mohd Shukuri Mohamad Ali , Abu Bakar Salleha,Raja Noor Zaliha Raja Abdul Rahmana, Adam Thean Chor Leowa, Toluene promotes lid 2 interfacial activation of cold active solvent tolerant lipase from Pseudomonas fluorescens strain AMS8. Journal of Molecular Graphics and Modelling 68 (2016) 224–235
11. Garba L, Mohamad Ali MS, Oslan SN,Rahman RNZRA (2016) Molecular Cloning andFunctional Expression of a Δ9- Fatty Acid Desaturasefrom an Antarctic Pseudomonas sp. A3. PLoS ONE 11(8): e0160681. doi:10.1371/journal.pone.0160681
12. Garba L, Mohamad Ali MS, Oslan SN,Rahman RNZRA (2016) Heterologous Expression of PA8FAD9 and Functional Characterization of a D9-Fatty Acid Desaturase from a Cold-Tolerant Pseudomonas sp. A8. Mol Biotechnol DOI 10.1007/s12033-016-9971-9
13. Masomian M, Rahman RNZRA, Salleh AB, Basri M (2016) Analysis of Comparative Sequence and Genomic Data to Verify Phylogenetic Relationship and Explore a New Subfamily of Bacterial Lipases. PLoS ONE 11(3): e0149851. doi:10.1371/journal.pone.0149851

14. Lawal Garba, Wahhida Latip, Mohd Shukuri Mohamad Ali, Siti Nurbaya Oslan and Raja Noor Zaliha Binti Raja Abd. Rahman, (2016). Unsaturated Fatty Acids in Antarctic Bacteria. Research Journal of Microbiology, 11: 146-152..
15. Shakiba, M.H., Ali, M.S.M., Rahman, R.N.Z.R.A., Salleh, A.B., Leow, T.C. (2016) Cloning, expression and characterization of a novel cold-adapted GDSL family esterase from Photobacterium sp. strain J15. Extremophile Volume 20, Issue 1, 1 January 2016, Pages 45-55
16. JEN-KIT TAN, SUE-MIAN THEN, MUSALMAH MAZLAN, RAJA NOOR ZALIHA RAJA ABDUL RAHMAN, RAHMAN JAMAL and WAN ZURINAH WAN NGAH, 2016. Gamma-tocotrienol acts as a BH3 mimetic to induce apoptosis in neuroblastoma SH-SY5Y cells Journal of Nutritional Biochemistry. 31, 28-37
17. Gol Mohammad Dorrazehi, Laila Noh, Mohd Shukuri Mohamad Ali, Raja Noor Zaliha Raja Abd Rahman, Abu Bakar Salleh, Normi Mohd Yahaya and Thean Chor Leow, (2016). TROUBLESHOOTING THE HETEROLOGOUS EXPRESSION OF RIBOFLAVIN SYNTHASE FROM PHOTOBACTERIUM SP. J15. European Journal of Biomedical and Pharmaceutical Sciences. ISSN 2349-8870 Volume: 3 Issue: 4 699-705 Year: 2016
18. Abdul Wahab, R., Basri, M., Raja Abdul Rahman, R.N.Z., Abdul Rahman, M.B., Leow, T.C. 2015 Development of a catalytically stable and efficient lipase through an increase in hydrophobicity of the oxyanion residue. Journal of Molecular Catalysis B: Enzymatic. 122: 282-288
19. Moohamad Ropaning Sulong,TheanChor Leow, Raja Noor Zaliha Raja Abd Rahman, Mahiran Basri & Abu Bakar Salleh (2015). Enhancing Thermtability of Maltogenic Amylase from Geobacillussp. SK70 by Single Amino Acid Substitution. International Journal of New Technologies in Science and Engineering Vol. 2, Issue 3,Sep 2015, ISSN 2349 page 20-40
20. Ariff, A.B., Nelofer, R., Rahman, R.N.Z.R.A., Basri, M. (2015). Organik çözücü toleranslı ve ısıya dayanıklı rekombinan E. coli lipaz üretiminin kinetiği ve grup fermentasyonu modellemesi | [Kinetics and modelling of batch fermentation for the production of organic solvent tolerant and thermostable lipase by recombinant E. coli]. Turkish Journal of Biochemistry. 40 (4):298-309
21. Siti Nurbaya Oslan1,2, Abu Bakar Salleh1,2,6*, Raja Noor Zaliha Raja Abd Rahman1,3,6, Thean Chor Leow1,4,6, Hafizah Sukamat2 and Mahiran Basri1,5,6 (2015) A newly isolated yeast as an expression host for recombinant lipase Cellular and Molecular Biology Letters, Volume 20 (2015) pp 279-293
22. Raja Noor Zaliha Raja Abd Rahman, Malihe Masomian, Adam Thean Chor Leow, Mohd Shukuri Mohamad Ali (2015) Influence of protein solution in nucleation and optimized formulation for the growth of ARM lipase crystal. Journal of Crystal Growth 426 (2015) 234–242
23. RAJA Noor Zaliha Raja Abd Rahman 1*, Mohd. Shukuri Mohamad Ali 1, Shigeru Sugiyama 2,3, Adam Thean Chor Leow 1 ,Tsuyoshi Inoue 2 , Mahiran Basri 1, Abu Bakar Salleh 1 and Hiroyoshi Matsumura2 (2015) A Comparative Analysis of Microgravity and Earth Grown Thermostable T1 Lipase Crystals Using HDPCG Apparatus. Protein & Peptide Letters. Volume 22, Number 2, February 2015, pp. 173-179(7)
24. Sivasangkary Gandhi,1 Abu Bakar Salleh,1,2 Raja Noor Zaliha Raja Abd Rahman,3Thean Chor Leow,4 and Siti Nurbaya Oslan (2015) Expression and Characterization of Geobacillus stearothermophilus SR74 Recombinantα-Amylase in Pichia pastoris. BioMed Research International Volume 2015 (2015), Article ID 529059, 9 pages
25. Raja Noor Zaliha Raja Abd. Rahman, Norsyuhada Alias, Adam Thean Chor Leow, Mohd. Shukuri Mohamad Ali, Asilah Ahmad Tajudin and Abu Bakar Salleh (2015), Antilipase and Antioxidant Activity of Phyllanthus niruri Methanolic Extract. Australian Journal of Basic and Applied Sciences,9 (7) April 2015, Pages:133-136
26. Jonathan Maiangwa, Mohd Shukuri Mohamad Ali, Abu Bakar Salleh, Raja Noor Zaliha Raja Abd Rahman, Fairolniza Mohd Shariff and Thean Chor Leow (2014) Adaptational properties and applications of cold-active lipases from psychrophilic bacteria.Extremophiles : life under extreme conditions. March 2015, Volume 19, Issue 2, pp 235-247

27. Roswanira Abdul Wahab, Mahiran Basri, Raja Noor Zaliha Raja Abdul Rahman, Abu Bakar Salleh, Mohd Basyaruddin Abdul Rahman and Thean Chor Leow (2014). Enzymatic production of a solvent-free menthyl butyrate via response surface methodology catalyzed by a novel thermophilic lipase from *Geobacillus zalihae*. Biotechnology and Biotechnology Equipment,. 12/2014; 28(6):1065-1072.
28. Chee Fah Wong1, Raja Noor Zaliha Raja Abd. Rahman*, Mahiran Basri2, Abu Bakar Salleh3, 3 (2014) Structural Assessment of Elastase Strain K in Homogeneous Non-Aqueous System. International Journal of Biological Engineering 2014, 4(1): 1-3 DOI: 10.5923/j.ijbe.20140401.01
29. Mohd AdilinYaacob, Wan Atiqah Najiah Wan Hasan, Mohd Shukuri Mohamad Ali, Raja Noor Zaliha Raja Abdul Rahman, Abu Bakar Salleh, Mahiran Basri and Thean Chor Leow (2014) Characterisation and molecular dynamic simulations of J15 asparaginase from Photobacterium sp. strain J15. Acta Biochimica Polonica,;61(4):745-52. Epub 2014 Oct 22.
30. Mohd Basyaruddin Abdul Rahman,Ahmad Hanif Jaafar, Mahiran Basri, Raja Noor Zaliha Raja Abdul Rahman and Abu Bakar Salleh (2014). Biomolecular Design and ReceptorLigand Interaction of a Potential Industrial Biocatalsyt: A Thermostable Thermolysin-Phosphoeth-anolamine-Ca2+ Protein Complex. Journal of Advanced Catalysis Science and Technology. 1, , 1-5
31. Oslan S. Nurbaya, Salleh A. Bakar, Rahman R. N. Z. R. A. Raja, Leow T. Chor, and Basri M. (2014) Pichia pastoris as a host to overexpress the thermostable T1 lipase from Geobacillus zalihae. GSTF. Journal of BioSciences (JBio) Vol 2 No.1.DOI: 10.5176/2251-3140_3.1.45
32. Siti Salwa Abd Gani, Mahiran Basri, Anuar Kassim, Raja Noor Zaliha Raja Abd Rahman, Abu Bakar Salleh, and Zahariah Ismail (2014). Characterization of encapsulated titanium dioxine using engkabang fat esters for cosmeceutical purposes. IJPCBS 2014,4(3)725-737
33. Joo Shun Tan, Sahar Abbasiliasi,Yu Kiat Lin, Mohd Shamzi Mohamed, Mohammad Rizal Kapri, Saeid Kadkhodaei, Yew Joon Tam, Raja Noor Zaliha Raja Abd. Rahman, Arbakariya B. Ariff. (2014) Primary Recovery of Thermostable Lipase 42 Derived From Recombinant Escherichia coli BL21 in Aqueous Two-Phase Flotation. Separation and Purification Technology. 133 (2014) 328–334
34. Velayudhan Ranjani, Stefan Janecek, Kian Piaw Chai, Shafinaz Shahir, Raja Noor Zaliha Raja Abdul Rahman, Kok Gan Chan, and Kian Mau Goh. (2014) Protein engineering of selected residues from conserved sequence regions of a novel Anoxybacillus α-amylase Sci. Rep. 4: 5850;DOI:10.1038/srep05850 (2014)
35. Norsyuhada Alias, Mu'adz Ahmad Mazian, Abu Bakar Salleh, Mahiran Basri, and Raja Noor Zaliha Raja Abd. Rahman, "Molecular Cloning and Optimization for High Level Expression of Cold-Adapted Serine Protease from Antarctic Yeast Glaciozyma antarctica PI12," Enzyme Research, vol. 2014, Article ID 197938, 20 pages, 2014. doi:10.1155/2014/197938
36. Nor Hafizah Ahmad Kamarudin, Raja Noor Zaliha Raja Abd. Rahman, Mohd Shukuri Mohamad Ali, Thean Chor Leow, Mahiran Basri, and Abu Bakar Salleh (2014) A New Cold Adapted, Organic Solvent Stable Lipase From Mesophilic Staphylococcus epidermidis AT2. Protein J 33:296–307
37. Wong, C.F.a, Rahman,R.N.Z.R.A.b, Basri, M.b, Salleh, A.B. Construction of vectors for tight regulation and repression of protein expression. Asian Pacific Journal of Tropical Disease Volume 4, Issue 3, June 2014, Page 251
38. Nor Hafizah Ahmad Kamarudin, Raja Noor Zaliha Raja Abd. Rahman, Mohd Shukuri Mohamad Ali, Thean Chor Leow, Mahiran Basri, and Abu Bakar Salleh (2014) Unscrambling the effect of C-terminal tail deletion on the stability of a cold-adapted, organic solvent stable lipase from Staphylococcus epidermidis AT2", Molecular Biotechnology. In press
39. Rezaee M, Basri M, Rahman RNZRA, Salleh AB, Chaibakhsh N, Abedi Karjiban R. (2014) Formulation development and optimization of palm kernel oil esters-based nanoemulsions containing sodium diclofenac. International Journal of Nanomedicine January 2014 Volume 2014:9(1) Pages 539 - 548
40. Sayangku Nor Ariati Mohamad Aris, Adam Leow Thean Chor, Mohd Shukuri Mohamad Ali, Mahiran Basri, Abu Bakar Salleh, and *Raja Noor Zaliha Raja Abd. Rahman,

"Crystallographic Analysis of Ground and Space Thermostable T1 Lipase Crystal Obtained via Counter Diffusion Method Approach," BioMed Research International, vol. 2014, Article ID 904381, 8 pages, 2014. doi:10.1155/2014/904381

41. A multivariate modeling for analysis of factors controlling the particle size and viscosity in palm kernel oil esters-based nanoemulsions (2014). Rezaee, M., Basri, M., Raja Abdul Rahman, R.N.Z., Salleh, A.B., Chaibakhsh, N., Fard Masoumi, H.R.. Industrial Crops and Products, 52 :506-511
42. Atena Adnani, Naz Chaibakhsh, HosseinAbbastabarAhangar, Mahiran Basri, Raja Noor Zaliha Raja Abdul Rahman, Abu Bakar Salleh (2013) High Performance Enzyme-Catalyzed Synthesis and Characterization of a Nonionic Surfactant OSR Journal of Applied Chemistry (IOSR-JAC) Volume 3:31-43, Issue 5 (Jan. –Feb. 2013),
43. Ali MS1, Yun CC, Chor AL, Rahman RN, Basri M, Salleh AB (2013) Purification and characterisation of an F16L mutant of a thermostable lipase. Protein J. 2012 Mar;31(3):229-37
44. Audrey Lee Ying Yeng, Mohd Safuan Ab Kadir, Hasanah Mohd Ghazali, Raja Noor Zaliha Raja Abd Rahmanand Nazamid Saari (2013). A comparative study of extraction techniques for maximum recovery of glutamate decarboxylase (GAD) from Aspergillus oryzae NSK. BMC Research Notes,6:526
45. Nelofer, R. , Rahman, R.N.Z.R.A., Basri, M., Ariff, A.B. (2013) Optimization of fed-batch fermentation for organic solvent tolerant and thermostable lipase production from recombinant E. coli . Turkish Journal of Biochemistry, Volume 38, Issue 3, 2013, Pages 299-307
46. Latiffi, A.A., Salleh, A.B., Rahman, R.N.Z.R.A., Nurbaya Oslan, S., Basri, M. (2013) Secretory expression of thermostable alkaline protease from Bacillus stearothermophilus FI by using native signal peptide and α-factor secretion signal in Pichia pastoris. Genes and Genetic Systems 88: 85-91
47. Zatty Syamimi @ Adura Mat Said, Mohd Shukuri Mohamad Ali *, Raja Noor Zaliha Raja Abd Rahman, Adam Leow Thean Chor, Abu Bakar Salleh, Mahiran Basri (2013) Capillary-seeding crystallization and preliminary structure of solvent-tolerant elastase from Pseudomonas aeruginosa strain K.Int. J. Mol. Sci. 2013, 14, 17608-17617;
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49. Mohd Shukuri Mohamad Ali, Menega Ganasen, Raja Noor Zaliha Raja Abd. Rahman, Abu Bakar Salleh and Mahiran Basri (2013) Cold-adapted RTX Lipase from Antarctic Pseudomonas sp. Strain A8:Isolation, Molecular Modeling and Heterologous Expression (2013), Protein J Volume 32, Issue 4, pp 317-325
50. Chew-Hee Ng, Wai-San Wang, Kok-Vei Chong, Foo-Win Yip, Kian-Eang Neo , Hong-Boon Lee, Swee-Lan San, Raja Noor Zaliha Raja abd. Rahman, and Weng-Kee Leong (2013) Ternary copper(II)-polypyridyl enantiomers: Aldol condensation, characterization, DNA-binding recognition, BSA-binding and anticancer property, Dalton Trans., 2013, 42: 10233–10243
51. Mohd. Shukuri Mohamad Ali, Siti Farhanie Mohd Fuzi, Menega Ganasen, Raja Noor Zaliha Raja Abdul Rahman, Mahiran Basri, and Abu Bakar Salleh, "Structural Adaptation of Cold-Active RTX Lipase from Pseudomonas sp. Strain AMS8 Revealed via Homology and Molecular Dynamics Simulation Approaches," BioMed Research International, vol. 2013, Article ID 925373, 9 pages, 2013. doi:10.1155/2013/925373
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54. Malihe Masomiana, , Raja Noor Zaliha Raja Abd Rahmana, , Abu Bakar Sallehb, , Mahiran Basri (2013). A new thermostable and organic solvent-tolerant lipase from Aneurinibacillus thermoaerophilus strain HZ . Process Biochemistry 48 (2013) 169–175
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creeping foxglove (A. gangetica), slender button weed (D. ocimifolia) and buffalo grass (P. conjugatum) Pest Management Science, 69 (1)-104-111

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59. Siti Nurbaya Oslan, Abu Bakar Salleh1, Raja Noor Zaliha Raja Abd Rahman, Mahiran Basri, and Adam Leow Thean Chor (2012) Locally isolated yeasts from Malaysia: Identification, phylogenetic study and characterization Acta Biochimica Polonica, 59 (2), pp. 225-229
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Intellectual Property	**Patent Granted: 18(Malaysian Patents: 7, Overseas Patents: 11)** **Patent Filling : 54 (Malaysian Patents: 31, Overseas Patents: 23)** **Patent Granted:** **Malaysian Patents** 1. Novel Geobacillus microorganism, Malaysian Patent, 28th November 2008 : MY-136932-A 2. Enantioselective immobilized lipase, Malaysian Patent, 31st December 2007 : MY- 131420-A 3. Novel lipase gene from *Bacillus sphaericus* 205y, 30th October 2009, MY-139496-A 4. Novel lipase gene from *Pseudomonas sp*.S5, 31 March 2014, MY151012A 5. Crystallization of Enzyme and Method for Producing Same, 31 July 2015, MY-154817-A 6. Method For crystallizing Geobacillus strain T1 polypeptide, 30/11/2016, MY-158896-A 7. Thermostable Organic Solvent Tolerant Protease from Gram-Positive Bacteria,

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