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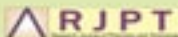
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Author(s): Mohd Alaraj

DOI: 10.52711/0974-360X.2022.00728 (<https://www.doi.org/10.52711/0974-360X.2022.00728>)

Views: 0 (pdf), 1202 (html)

Access: Closed Access

Cite: Mohd Alaraj. The effects of Amlodipine and Propranolol on Haemodialysis Efficiency in End-Stage Renal Failure patients. Research Journal of Pharmacy and Technology 2022; 15(10):4343-7 doi: 10.52711/0974-360X.2022.00728 (<https://www.doi.org/10.52711/0974-360X.2022.00728>)

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Isolation and Identification of Phytoconstituens from Methanol Extract Parijoto (Medinilla speciosa) (AbstractView.aspx?PID=2022-15-10-10)

Author(s): Rina Wijayanti, Subagus Wahyuono, Ika Puspitasari, Dicky M. Rizal

DOI: 10.52711/0974-360X.2022.00737 (<https://www.doi.org/10.52711/0974-360X.2022.00737>)

Views: 0 (pdf), 890 (html)

Access: Closed Access

Cite: Rina Wijayanti, Subagus Wahyuono, Ika Puspitasari, Dicky M. Rizal. Isolation and Identification of Phytoconstituens from Methanol Extract Parijoto (Medinilla speciosa). Research Journal of Pharmacy and Technology 2022; 15(10):4395-4. doi: 10.52711/0974-360X.2022.00737 (<https://www.doi.org/10.52711/0974-360X.2022.00737>)

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Design, Synthesis and Anticancer potential evaluation of Novel Naphthoic Acid linked Imidazo[2,1-b][1,3,4]thiadiazoles (AbstractView.aspx?PID=2022-15-10-11)

Author(s): Satvir Singh, Divya. D. Bhandari, Monika Gupta, Jagdeep Singh

DOI: 10.52711/0974-360X.2022.00738 (<https://www.doi.org/10.52711/0974-360X.2022.00738>)

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Cite: Satvir Singh, Divya. D. Bhandari, Monika Gupta, Jagdeep Singh. Design, Synthesis and Anticancer potential evaluation of Novel Naphthoic Acid linked Imidazo[2,1-b][1,3,4]thiadiazoles. *Research Journal of Pharmacy and Technology*2022; 15(10):4405-2 doi: 10.52711/0974-360X.2022.00738 (<https://www.doi.org/10.52711/0974-360X.2022.00738>)

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Physicochemical In vivo Anti-Inflammatory effect of Tablet containing Fenopufen (AbstractView.aspx?PID=2022-15-10-12)

Author(s): Shailendra Singh Narwariya, Suman Jain

DOI: 10.52711/0974-360X.2022.00739 (<https://www.doi.org/10.52711/0974-360X.2022.00739>)

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Cite: Shailendra Singh Narwariya, Suman Jain. Physicochemical In vivo Anti-Inflammatory effect of Tablet containing Fenopufen. *Research Journal of Pharmacy and Technology*2022; 15(10):4413-5. doi: 10.52711/0974-360X.2022.00739 (<https://www.doi.org/10.52711/0974-360X.2022.00739>)

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Role of Zinc (II) Bio metal in complexation of Aspirin as Anti Stroke Drug (AbstractView.aspx?PID=2022-15-10-13)

Author(s): Priyanka Chouhan, Jyotsna Mishra

DOI: 10.52711/0974-360X.2022.00740 (<https://www.doi.org/10.52711/0974-360X.2022.00740>)

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Cite: Priyanka Chouhan, Jyotsna Mishra. Role of Zinc (II) Bio metal in complexation of Aspirin as Anti Stroke Drug. *Research Journal of Pharmacy and Technology*2022; 15(10):4416-8. doi: 10.52711/0974-360X.2022.00740 (<https://www.doi.org/10.52711/0974-360X.2022.00740>)

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Author(s): T. Mary Minolin, M. Benjamin Sagayaraj, R. Vijayaraghavan

DOI: 10.52711/0974-360X.2022.00741 (<https://www.doi.org/10.52711/0974-360X.2022.00741>)

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Cite: T. Mary Minolin, M. Benjamin Sagayaraj, R. Vijayaraghavan. Effectiveness of Evidence-based Nursing Intervention on communication and Social skill among Autism Spectrum Disorder Children and Quality of life of the parents. *Research Journal of Pharmacy and Technology*2022; 15(10):4419-4. doi: 10.52711/0974-360X.2022.00741 (<https://www.doi.org/10.52711/0974-360X.2022.00741>)

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A Potential Insect Antimicrobial of Black Soldier Fly Larvae (*Hermetia illucens*) against Pathogenic Bacteria (AbstractView.aspx?PID=2022-15-10-15)

Author(s): *Diyantoro, Aliyah Siti Sundari, Rizka Oktarianti Ainun Jariah, Dwi Wahyu Indriati, Dwi Wahyu Indriani*

DOI: 10.52711/0974-360X.2022.00742 (<https://www.doi.org/10.52711/0974-360X.2022.00742>)

Views: 0 (pdf), 930 (html)

Access:  Closed Access

Cite: *Diyantoro, Aliyah Siti Sundari, Rizka Oktarianti Ainun Jariah, Dwi Wahyu Indriati, Dwi Wahyu Indriani. A Potential Insect Antimicrobial of Black Soldier Fly Larvae (*Hermetia illucens*) against Pathogenic Bacteria. Research Journal of Pharmacy and Technology*2022; 15(10):4425-3. doi: 10.52711/0974-360X.2022.00742 (<https://www.doi.org/10.52711/0974-360X.2022.00742>)

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Study on the Anti-inflammatory activity of Saponin from *Dioscorea bulbifera* using in vitro and in silico methods (AbstractView.aspx?PID=2022-15-10-16)

Author(s): *Nimeeta Adhikarimayum, Dhasarathan P, Praveena A, Yuktha S Srinivasan, Sakthi Rajeshwari C*

DOI: 10.52711/0974-360X.2022.00743 (<https://www.doi.org/10.52711/0974-360X.2022.00743>)

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Cite: *Nimeeta Adhikarimayum, Dhasarathan P, Praveena A, Yuktha S Srinivasan, Sakthi Rajeshwari C. Study on the Anti-inflammatory activity of Saponin from *Dioscorea bulbifera* using in vitro and in silico methods. Research Journal of Pharmacy and Technology*2022; 15(10):4434-8. doi: 10.52711/0974-360X.2022.00743 (<https://www.doi.org/10.52711/0974-360X.2022.00743>)

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Methanolic extract of *Entada phaseoloides* inhibits Colorectal carcinoma cells proliferation of HT-29 cell by Modulating mitochondria-mediated apoptotic pathway (AbstractView.aspx?PID=2022-15-10-17)

Author(s): *Chandana Choudhury Barua, Sm Abdul Aziz Barbhuiya, Ajay Kakati, Lipika Buragohain, Syamprasad Np, Basweswar Gawali, Vgm Naidu*

DOI: 10.52711/0974-360X.2022.00744 (<https://www.doi.org/10.52711/0974-360X.2022.00744>)

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Compatibility of Two EDTA Tubes for Hemoglobin (Hb) Hematocrit (Hct) Tests with Aptus Equipment (AbstractView.aspx?PID=2022-15-10-18)

Author(s): *Sylvia Viana Varanita, Hartono Kahar, Munawaroh Fitriah*

DOI: [10.52711/0974-360X.2022.00745](https://www.doi.org/10.52711/0974-360X.2022.00745) (<https://www.doi.org/10.52711/0974-360X.2022.00745>)

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HPTLC Finger print Analysis and In vitro Cytotoxicity Study against A549 cell line for Methanol and Chloroform extract of bark of *Erythrina stricta* Roxb. (AbstractView.aspx?PID=2022-15-10-19)

Author(s): *Muslek Uddin Mazumder, TC Lalhriatpuii, P Khazeo, Sadique Hussain Tapadar, SM Abdul Aziz Barbhuiya, MD Rejwan Ahmed Choudhury*

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Cite: *Muslek Uddin Mazumder, TC Lalhriatpuii, P Khazeo, Sadique Hussain Tapadar, SM Abdul Aziz Barbhuiya, MD Rejwan Ahmed Choudhury. HPTLC Finger print Analysis and In vitro Cytotoxicity Study against A549 cell line for Methanol and Chloroform extract of bark of *Erythrina stricta* Roxb. Research Journal of Pharmacy and Technology 2022; 15(10):4451-6. doi: 10.52711/0974-360X.2022.00746* (<https://www.doi.org/10.52711/0974-360X.2022.00746>)

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Standardization and In vitro Antioxidant activity of *Schleichera oleosa* (Lour.) Oken bark (Koshamra) – An Ayurvedic plant (AbstractView.aspx?PID=2022-15-10-2)

Author(s): *Latha S, Sathish S*

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Cite: *Latha S, Sathish S. Standardization and In vitro Antioxidant activity of *Schleichera oleosa* (Lour.) Oken bark (Koshamra) – An Ayurvedic plant. Research Journal of Pharmacy and Technology 2022; 15(10):4348-2. doi: 10.52711/0974-360X.2022.00729* (<https://www.doi.org/10.52711/0974-360X.2022.00729>)

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(AbstractView.aspx?
PID=2022-15-
10-2)

Evaluation of Anti-Inflammatory and Wound Healing Potential of Sodium Glucose Co-Transporter2 (SGLT2) Inhibitors (AbstractView.aspx?PID=2022-15-10-20)

Author(s): Nandhidha. R1, Punnagai. K

DOI: 10.52711/0974-360X.2022.00747 (<https://www.doi.org/10.52711/0974-360X.2022.00747>)

Views: 0 (pdf), 396 (html)

Access:  Closed Access

Cite: Nandhidha. R1, Punnagai. K. Evaluation of Anti-Inflammatory and Wound Healing Potential of Sodium Glucose Co-Transporter2 (SGLT2) Inhibitors. *Research Journal of Pharmacy and Technology*2022; 15(10):4457-2. doi: 10.52711/0974-360X.2022.00747 (<https://www.doi.org/10.52711/0974-360X.2022.00747>)

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(AbstractView.aspx?
PID=2022-15-
10-20)

The Effect of Apium graveolens L. in Progesterone-Induced Blocking Factor (PIBF) During Pregnancy (AbstractView.aspx?PID=2022-15-10-21)

Author(s): Revi Gama Hatta Novika, Cahyaning Setyo Hutomo, Nurul Jannatul Wahidah, Lanjar Sumarno, Nanda Yuli Rahmawati, Arif Nur Muhammad Ansori, Ahmad Yunus

DOI: 10.52711/0974-360X.2022.00748 (<https://www.doi.org/10.52711/0974-360X.2022.00748>)

Views: 0 (pdf), 615 (html)

Access:  Closed Access

Cite: Revi Gama Hatta Novika, Cahyaning Setyo Hutomo, Nurul Jannatul Wahidah, Lanjar Sumarno, Nanda Yuli Rahmawati, Arif Nur Muhammad Ansori, Ahmad Yunus. The Effect of Apium graveolens L. in Progesterone-Induced Blocking Factor (PIBF) During Pregnancy. *Research Journal of Pharmacy and Technology*2022; 15(10):4463-8. doi: 10.52711/0974-360X.2022.00748 (<https://www.doi.org/10.52711/0974-360X.2022.00748>)

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(AbstractView.aspx?
PID=2022-15-
10-21)

Development and Pharmacological assessment of dehydrozingerone gel formulation on imiquimod-induced psoriasis in mice (AbstractView.aspx?PID=2022-15-10-22)

Author(s): Gangadhar Hari, Anusha Prabhu, Chaitanyamayee Kalakota, Jeslin Johnson, Kufaila Mansoor, Rekha R Shenoy, Karkala Sreedhara Ranganath Pai, Krishnadas Nandakumar

DOI: 10.52711/0974-360X.2022.00749 (<https://www.doi.org/10.52711/0974-360X.2022.00749>)

Views: 0 (pdf), 595 (html)

Access:  Closed Access

Cite: Gangadhar Hari, Anusha Prabhu, Chaitanyamayee Kalakota, Jeslin Johnson, Kufaila Mansoor, Rekha R Shenoy, Karkala Sreedhara Ranganath Pai, Krishnadas Nandakumar. *Research Journal of Pharmacy and Technology*2022; 15(10):4469-2. doi: 10.52711/0974-360X.2022.00749 (<https://www.doi.org/10.52711/0974-360X.2022.00749>)

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(AbstractView.aspx?
PID=2022-15-
10-22)

Studies on Ecofriendly approach for removal of water hardness by *Moringa oleifera* Lam. seed extract (AbstractView.aspx?PID=2022-15-10-23)

Author(s): Ranadive Ananth Govindaraju, Bijaya Kumar Nayak, N. Arun, Gayathri Parivallal, Anima Nanda

DOI: 10.52711/0974-360X.2022.00750 (<https://www.doi.org/10.52711/0974-360X.2022.00750>)

Views: 0 (pdf), 559 (html)

Access:  Closed Access

Cite: Ranadive Ananth Govindaraju, Bijaya Kumar Nayak, N. Arun, Gayathri Parivallal, Anima Nanda. Studies on Ecofriendly approach for removal of water hardness by *Moringa oleifera* Lam. seed extract. *Research Journal of Pharmacy and Technology*2022; 15(10):4473-6. doi: 10.52711/0974-360X.2022.00750 (<https://www.doi.org/10.52711/0974-360X.2022.00750>)

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(AbstractView.aspx?

PID=2022-15-10-23)

The Effect of Moringa Leaf (*Moringa oleifera* Lam.), Pandan Wangi (*Pandanus amaryllifolius* Roxb.) and Red Ginger (*Zingiber officinale* Rosc.Var) Extract Supplement Intervention on Uric Acid, Kidney, Liver Function and Perceptions of Hyperuricemia patients on health benefit (AbstractView.aspx?PID=2022-15-10-24)

Author(s): Tri D. Widyaningsih, Rinten A. Sari, Widya D. Rukmi, Syavira A. Dahniar

DOI: 10.52711/0974-360X.2022.00751 (<https://www.doi.org/10.52711/0974-360X.2022.00751>)

Views: 0 (pdf), 539 (html)

Access:  Closed Access

Cite: Tri D. Widyaningsih, Rinten A. Sari, Widya D. Rukmi, Syavira A. Dahniar. The Effect of Moringa Leaf (*Moringa oleifera* Lam.), Pandan Wangi (*Pandanus amaryllifolius* Roxb.) and Red Ginger (*Zingiber officinale* Rosc.Var) Extract Supplement Intervention on Uric Acid, Kidney, Liver Function and Perceptions of Hyperuricemia patients on health benefit. *Research Journal of Pharmacy and Technology*2022; 15(10):4477-4. doi: 10.52711/0974-360X.2022.00751 (<https://www.doi.org/10.52711/0974-360X.2022.00751>)

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(AbstractView.aspx?

PID=2022-15-10-24)

Evaluation of physicochemical parameters of *Acacia catechu* Willd. (AbstractView.aspx?PID=2022-15-10-25)

Author(s): Jyoti, Vandana Garg

DOI: 10.52711/0974-360X.2022.00752 (<https://www.doi.org/10.52711/0974-360X.2022.00752>)

Views: 0 (pdf), 769 (html)

Access:  Closed Access

Cite: Jyoti, Vandana Garg. Evaluation of physicochemical parameters of *Acacia catechu* Willd. *Research Journal of Pharmacy and Technology*2022; 15(10):4485-9. doi: 10.52711/0974-360X.2022.00752 (<https://www.doi.org/10.52711/0974-360X.2022.00752>)

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(AbstractView.aspx?

PID=2022-15-10-25)

Formulation and Optimization of 5-Amino Salicylic acid Tablet for Colon Targeting (AbstractView.aspx?PID=2022-15-10-26)

Author(s): Anilkumar J. Shinde, Pritam R. Walave, Firoj A. Tamboli, Harinath N. More

DOI: 10.52711/0974-360X.2022.00753 (<https://www.doi.org/10.52711/0974-360X.2022.00753>)

Views: 0 (pdf), 517 (html)

Access:  Closed Access

Cite: Anilkumar J. Shinde, Pritam R. Walave, Firoj A. Tamboli, Harinath N. More. Formulation and Optimization of 5-Amino Salicylic acid Tablet for Colon Targeting. *Research Journal of Pharmacy and Technology*2022; 15(10):4490-8. doi: 10.52711/0974-360X.2022.00753 (<https://www.doi.org/10.52711/0974-360X.2022.00753>)

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(AbstractView.aspx?

PID=2022-15-

10-26)

Isolation and Identification of bacteria with heart disease and detection of some Immunological Cytokine in patients (AbstractView.aspx?PID=2022-15-10-27)

Author(s): Zainab. Nasser. Nabat, Bareq A. Al-lateef, Zainab H. Al-zubaidy

DOI: 10.52711/0974-360X.2022.00754 (<https://www.doi.org/10.52711/0974-360X.2022.00754>)

Views: 0 (pdf), 490 (html)

Access:  Closed Access

Cite: Zainab. Nasser. Nabat, Bareq A. Al-lateef, Zainab H. Al-zubaidy. Isolation and Identification of bacteria with heart disease and detection of some Immunological Cytokine in patients. *Research Journal of Pharmacy and Technology*2022; 15(10):4499-2. doi: 10.52711/0974-360X.2022.00754 (<https://www.doi.org/10.52711/0974-360X.2022.00754>)

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(AbstractView.aspx?

PID=2022-15-

10-27)

Quantification of Total Tocotrienol content in Pharmaceutical Formulation by UV Spectrophotometric aided Multivariate Calibration Technique (AbstractView.aspx?PID=2022-15-10-28)

Author(s): Jayashree S, Kavitha J, Seetharaman R, Abhinandan Biswal, Kokilambigai K S, Lakshmi K S

DOI: 10.52711/0974-360X.2022.00755 (<https://www.doi.org/10.52711/0974-360X.2022.00755>)

Views: 0 (pdf), 573 (html)

Access:  Closed Access

Cite: Jayashree S, Kavitha J, Seetharaman R, Abhinandan Biswal, Kokilambigai K S, Lakshmi K S. Quantification of Total Tocotrienol content in Pharmaceutical Formulation by UV Spectrophotometric aided Multivariate Calibration Technique. *Research Journal of Pharmacy and Technology*2022; 15(10):4503-8. doi: 10.52711/0974-360X.2022.00755 (<https://www.doi.org/10.52711/0974-360X.2022.00755>)

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(AbstractView.aspx?

PID=2022-15-

10-28)

Development of Novel Validated RP-HPLC Method for the simultaneous determination of Perindopril and Amlodipine with possible degradants in Fixed dose Pharmaceutical Formulation (AbstractView.aspx?PID=2022-15-10-29)

Author(s): D. Prashanthi, B. Ramesh, Manish

DOI: 10.52711/0974-360X.2022.00756 (<https://www.doi.org/10.52711/0974-360X.2022.00756>)

Views: 0 (pdf), 427 (html)

Access:  Closed Access

Cite: D. Prashanthi, B. Ramesh, Manish. Development of Novel Validated RP-HPLC Method for the simultaneous determination of Perindopril and Amlodipine with possible degradants in Fixed dose Pharmaceutical Formulation. *Research Journal of Pharmacy and Technology*2022; 15(10):4509-4. doi: 10.52711/0974-360X.2022.00756 (<https://www.doi.org/10.52711/0974-360X.2022.00756>)

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(AbstractView.aspx?
PID=2022-15-
10-29)

Novel Derivative RP-HPLC Method for Quantification of Dimethyl Sulfate in Capecitabine Drug Substance. (AbstractView.aspx?PID=2022-15-10-3)

Author(s): D. Pavan Kumar, Kirti Kumar Jaina, G. Sinivasa Rao

DOI: 10.52711/0974-360X.2022.00730 (<https://www.doi.org/10.52711/0974-360X.2022.00730>)

Views: 0 (pdf), 735 (html)

Access:  Closed Access

Cite: D. Pavan Kumar, Kirti Kumar Jaina, G. Sinivasa Rao. Novel Derivative RP-HPLC Method for Quantification of Dimethyl Sulfate in Capecitabine Drug Substance. *Research Journal of Pharmacy and Technology*2022; 15(10):4353-8. doi: 10.52711/0974-360X.2022.00730 (<https://www.doi.org/10.52711/0974-360X.2022.00730>)

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(AbstractView.aspx?
PID=2022-15-
10-3)

Prevalence of some Helicobacter pylori virulence genes such vacA, oipA and dupA in Iraqi patients (AbstractView.aspx?PID=2022-15-10-30)

Author(s): Saja A. Al-Jumaili, Amina N. Al-Thwani, Abass T. Aljuodi, Nawal M. Al-Khalidi, Ihsan M. AL-Saqur

DOI: 10.52711/0974-360X.2022.00757 (<https://www.doi.org/10.52711/0974-360X.2022.00757>)

Views: 0 (pdf), 376 (html)

Access:  Closed Access

Cite: Saja A. Al-Jumaili, Amina N. Al-Thwani, Abass T. Aljuodi, Nawal M. Al-Khalidi, Ihsan M. AL-Saqur. Prevalence of some Helicobacter pylori virulence genes such vacA, oipA and dupA in Iraqi patients. *Research Journal of Pharmacy and Technology*2022; 15(10):4515-8. doi: 10.52711/0974-360X.2022.00757 (<https://www.doi.org/10.52711/0974-360X.2022.00757>)

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(AbstractView.aspx?
PID=2022-15-
10-30)

Skin Cancer Detection using Deep Learning (AbstractView.aspx?PID=2022-15-10-31)

Author(s): Rajarajeswari. S. J. Prassanna, Abdul Quadir Md, Christy Jackson J, Shivam Sharma, B. Rajesh

DOI: 10.52711/0974-360X.2022.00758 (<https://www.doi.org/10.52711/0974-360X.2022.00758>)

Views: 0 (pdf), 1009 (html)

Access:  Closed Access

Cite: Rajarajeswari. S. J. Prassanna, Abdul Quadir Md, Christy Jackson J, Shivam Sharma, B. Rajesh. Skin Cancer Detection using Deep Learning. *Research Journal of Pharmacy and Technology*2022; 15(10):4519-5. doi: 10.52711/0974-360X.2022.00758 (<https://www.doi.org/10.52711/0974-360X.2022.00758>)

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(AbstractView.aspx?
PID=2022-15-
10-31)

Immunological detection of Platelet-derived growth factor and Vascular endothelial growth factor in Iraqi women with Polycystic Ovarian Syndrome (AbstractView.aspx?PID=2022-15-10-32)

Author(s): Zainab Ali Hlail, Khalil Ismail Abid Mohammed, Ahmed Sahib Abd-ulamir, Mohammed Odah Salman

DOI: 10.52711/0974-360X.2022.00759 (<https://www.doi.org/10.52711/0974-360X.2022.00759>)

Views: 0 (pdf), 343 (html)

Access:  Closed Access

Cite: Zainab Ali Hlail, Khalil Ismail Abid Mohammed, Ahmed Sahib Abd-ulamir, Mohammed Odah Salman. Immunological detection of Platelet-derived growth factor and Vascular endothelial growth factor in Iraqi women with Polycystic Ovarian Syndrome. *Research Journal of Pharmacy and Technology*2022; 15(10):4526-8. doi: 10.52711/0974-360X.2022.00759 (<https://www.doi.org/10.52711/0974-360X.2022.00759>)

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(AbstractView.aspx?

PID=2022-15-10-32)

CNN based Framework for intelligent Diagnosis of Tuberculosis using Chest Radiographs (AbstractView.aspx?PID=2022-15-10-33)

Author(s): J.Prassanna, L.Jani Anbarasi, Rukmani.P, Christy Jackson.J, B.Rajesh, R.Manikandan

DOI: 10.52711/0974-360X.2022.00760 (<https://www.doi.org/10.52711/0974-360X.2022.00760>)

Views: 0 (pdf), 526 (html)

Access:  Closed Access

Cite: J.Prassanna, L.Jani Anbarasi, Rukmani.P, Christy Jackson.J, B.Rajesh, R.Manikandan. CNN based Framework for intelligent Diagnosis of Tuberculosis using Chest Radiographs. *Research Journal of Pharmacy and Technology*2022; 15(10):4529-2. doi: 10.52711/0974-360X.2022.00760 (<https://www.doi.org/10.52711/0974-360X.2022.00760>)

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(AbstractView.aspx?

PID=2022-15-10-33)

HPTLC Quantification and Estimation of Rutin and Kaempferol using aerial parts of *Ixora javanica* (blume) dc. and *Ixora barbata* roxb. ex. sm. (AbstractView.aspx?PID=2022-15-10-34)

Author(s): Dipanwita S. Ghoshal, Sopan N. Kharat, Sangeeta A. Godbole

DOI: 10.52711/0974-360X.2022.00761 (<https://www.doi.org/10.52711/0974-360X.2022.00761>)

Views: 0 (pdf), 467 (html)

Access:  Closed Access

Cite: Dipanwita S. Ghoshal, Sopan N. Kharat, Sangeeta A. Godbole. HPTLC Quantification and Estimation of Rutin and Kaempferol using aerial parts of *Ixora javanica* (blume) dc. and *Ixora barbata* roxb. ex. sm. *Research Journal of Pharmacy and Technology*2022; 15(10):4533-1. doi: 10.52711/0974-360X.2022.00761 (<https://www.doi.org/10.52711/0974-360X.2022.00761>)

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(AbstractView.aspx?

PID=2022-15-10-34)

Screening of Potential plants from Kalimantan as an Antimicrobial agent for Coliform bacteria (AbstractView.aspx?PID=2022-15-10-35)

Author(s): Aliyah S. Sundari, Dwi W. Indriati, Diyantoro, Dwi W. Indriani, Hilkatul Ilmi, Aty Widyawaruyanti, Achmad F. Hafid

DOI: 10.52711/0974-360X.2022.00762 (<https://www.doi.org/10.52711/0974-360X.2022.00762>)

Views: 0 (pdf), 491 (html)

Access:  Closed Access

Cite: Aliyah S. Sundari, Dwi W. Indriati, Diyantoro, Dwi W. Indriani, Hilkatul Ilmi, Aty Widyawaruyanti, Achmad F. Hafid. Screening of Potential plants from Kalimantan as an Antimicrobial agent for Coliform bacteria. *Research Journal of Pharmacy and Technology*2022; 15(10):4542-6. doi: 10.52711/0974-360X.2022.00762 (<https://www.doi.org/10.52711/0974-360X.2022.00762>)

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(AbstractView.aspx?
PID=2022-15-
10-35)

Fabrication and Cytotoxic activity of Sodium Alginate Ester Nanoparticles Loaded with Clofarabine on MCF-7 cell linings (AbstractView.aspx?PID=2022-15-10-36)

Author(s): Annapurna Anusha Kotwala, M. Komala

DOI: 10.52711/0974-360X.2022.00763 (<https://www.doi.org/10.52711/0974-360X.2022.00763>)

Views: 0 (pdf), 334 (html)

Access:  Closed Access

Cite: Annapurna Anusha Kotwala, M. Komala. Fabrication and Cytotoxic activity of Sodium Alginate Ester Nanoparticles Loaded with Clofarabine on MCF-7 cell linings. *Research Journal of Pharmacy and Technology*2022; 15(10):4547-2. doi: 10.52711/0974-360X.2022.00763 (<https://www.doi.org/10.52711/0974-360X.2022.00763>)

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(AbstractView.aspx?
PID=2022-15-
10-36)

Design, Development and In vivo Evaluation of Core in Cup Tablets of Budesonide (AbstractView.aspx?PID=2022-15-10-37)

Author(s): Swalin Parija, Guru Prasad Mohanta, Upendra Nath Nanda, V. Saikishore

DOI: 10.52711/0974-360X.2022.00764 (<https://www.doi.org/10.52711/0974-360X.2022.00764>)

Views: 0 (pdf), 520 (html)

Access:  Closed Access

Cite: Swalin Parija, Guru Prasad Mohanta, Upendra Nath Nanda, V. Saikishore. Design, Development and In vivo Evaluation of Core in Cup Tablets of Budesonide. *Research Journal of Pharmacy and Technology*2022; 15(10):4553-8. doi: 10.52711/0974-360X.2022.00764 (<https://www.doi.org/10.52711/0974-360X.2022.00764>)

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(AbstractView.aspx?
PID=2022-15-
10-37)

Molecular study on Efflux pumps of Klebsiella pneumonia Isolated from patients with Cystitis (AbstractView.aspx?PID=2022-15-10-38)

Author(s): Sahar Amer Ali, Hussein O. M. Al-Dahmoshi

DOI: 10.52711/0974-360X.2022.00765 (<https://www.doi.org/10.52711/0974-360X.2022.00765>)

Views: 0 (pdf), 360 (html)

Access:  Closed Access

Cite: Sahar Amer Ali, Hussein O. M. Al-Dahmoshi. Molecular study on Efflux pumps of Klebsiella pneumonia Isolated from patients with Cystitis. *Research Journal of Pharmacy and Technology* 2022; 15(10):4559-4. doi: 10.52711/0974-360X.2022.00765 (<https://www.doi.org/10.52711/0974-360X.2022.00765>)

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(AbstractView.aspx?
PID=2022-15-
10-38)

Evaluation of Hydrogen peroxide Scavenging and Antibacterial activity of successive extracts of *Luisia tenuifolia* Blume against skin and wound infections (AbstractView.aspx?PID=2022-15-10-39)

Author(s): Sakthipriyadarsini S, Kumar PR

DOI: 10.52711/0974-360X.2022.00766 (<https://www.doi.org/10.52711/0974-360X.2022.00766>)

Views: 0 (pdf), 531 (html)

Access:  Closed Access

Cite: Sakthipriyadarsini S, Kumar PR. Evaluation of Hydrogen peroxide Scavenging and Antibacterial activity of successive extracts of *Luisia tenuifolia* Blume against skin and wound infections. *Research Journal of Pharmacy and Technology* 2022; 15(10):4565-9. doi: 10.52711/0974-360X.2022.00766 (<https://www.doi.org/10.52711/0974-360X.2022.00766>)

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(AbstractView.aspx?

PID=2022-15-
10-39)

Synthesis of Sparfloxacin derivatives as an antibacterial, antimycobacterial agents with cytotoxicity investigation (AbstractView.aspx?PID=2022-15-10-4)

Author(s): Gulshan Guronani, Kapil Agrawal, Sheelpriya Walde, Abhay Ittadwar

DOI: 10.52711/0974-360X.2022.00731 (<https://www.doi.org/10.52711/0974-360X.2022.00731>)

Views: 0 (pdf), 410 (html)

Access:  Closed Access

Cite: Gulshan Guronani, Kapil Agrawal, Sheelpriya Walde, Abhay Ittadwar. Synthesis of Sparfloxacin derivatives as an antibacterial, antimycobacterial agents with cytotoxicity investigation. *Research Journal of Pharmacy and Technology* 2022; 15(10):4359-6. doi: 10.52711/0974-360X.2022.00731 (<https://www.doi.org/10.52711/0974-360X.2022.00731>)

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(AbstractView.aspx?

PID=2022-15-
10-4)

Quantitative Estimation of Total Phenols, Flavonoids and Antioxidant Potential of *Cayratia auriculata* (In-vitro study) (AbstractView.aspx?PID=2022-15-10-40)

Author(s): Nagaraju Kancherla, Anusha. D, Chitra. K, Ravi Babu. K

DOI: 10.52711/0974-360X.2022.00767 (<https://www.doi.org/10.52711/0974-360X.2022.00767>)

Views: 0 (pdf), 505 (html)

Access:  Closed Access

Cite: Nagaraju Kancherla, Anusha. D, Chitra. K, Ravi Babu. K. Quantitative Estimation of Total Phenols, Flavonoids and Antioxidant Potential of *Cayratia auriculata* (In-vitro study). *Research Journal of Pharmacy and Technology* 2022; 15(10):4570-6. doi: 10.52711/0974-360X.2022.00767 (<https://www.doi.org/10.52711/0974-360X.2022.00767>)

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(AbstractView.aspx?

PID=2022-15-
10-40)

Molecular Study of Secretion Systems Virulence Protein among *Pseudomonas aeruginosa* Isolated from different Clinical samples (AbstractView.aspx?PID=2022-15-10-41)

Author(s): Raad D. Al-Obaidi, Hussein O.M. Al-Dahmishi

DOI: 10.52711/0974-360X.2022.00768 (<https://www.doi.org/10.52711/0974-360X.2022.00768>)

Views: 0 (pdf), 388 (html)

Access:  Closed Access

Cite: Raad D. Al-Obaidi, Hussein O.M. Al-Dahmishi. Molecular Study of Secretion Systems Virulence Protein among *Pseudomonas aeruginosa* Isolated from different Clinical samples. *Research Journal of Pharmacy and Technology* 2022; 15(10):4577-3. doi: 10.52711/0974-360X.2022.00768 (<https://www.doi.org/10.52711/0974-360X.2022.00768>)

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(AbstractView.aspx?

PID=2022-15-10-41)

Exploration of anti-inflammatory activity of extract and isolated compounds obtained from the aerial root of *Ficus benghalensis* Linn. (AbstractView.aspx?PID=2022-15-10-42)

Author(s): Kamalika Mazumder, Ritu Khanra, Kaushik Biswas, Nripendra N. Bala, Himangshu S. Maji

DOI: 10.52711/0974-360X.2022.00769 (<https://www.doi.org/10.52711/0974-360X.2022.00769>)

Views: 0 (pdf), 525 (html)

Access:  Closed Access

Cite: Kamalika Mazumder, Ritu Khanra, Kaushik Biswas, Nripendra N. Bala, Himangshu S. Maji. Exploration of anti-inflammatory activity of extract and isolated compounds obtained from the aerial root of *Ficus benghalensis* Linn. *Research Journal of Pharmacy and Technology* 2022; 15(10):4584-8. doi: 10.52711/0974-360X.2022.00769 (<https://www.doi.org/10.52711/0974-360X.2022.00769>)

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(AbstractView.aspx?

PID=2022-15-10-42)

In-silico Design and Molecular Docking Studies of some novel 4-Aminoquinoline-Monastrol hybrids for their Antimalarial Activity (AbstractView.aspx?PID=2022-15-10-43)

Author(s): Raksha Sharma, Mukesh Kumar Kumawat, Gyanendra Kumar Sharma

DOI: 10.52711/0974-360X.2022.00770 (<https://www.doi.org/10.52711/0974-360X.2022.00770>)

Views: 0 (pdf), 473 (html)

Access:  Closed Access

Cite: Raksha Sharma, Mukesh Kumar Kumawat, Gyanendra Kumar Sharma. In-silico Design and Molecular Docking Studies of some novel 4-Aminoquinoline-Monastrol hybrids for their Antimalarial Activity. *Research Journal of Pharmacy and Technology* 2022; 15(10):4589-3. doi: 10.52711/0974-360X.2022.00770 (<https://www.doi.org/10.52711/0974-360X.2022.00770>)

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(AbstractView.aspx?

PID=2022-15-10-43)

Panax ginseng as Antioxidant and Anti-inflammatory to reduce the Cardiotoxicity of Doxorubicin on rat module (AbstractView.aspx?PID=2022-15-10-44)

Author(s): Hany Akeel Al-Hussaniy, Zainab Noori Mohammed, Ali H. Alburghaif , Meena Akeel Naji

DOI: 10.52711/0974-360X.2022.00771 (<https://www.doi.org/10.52711/0974-360X.2022.00771>)

Views: 0 (pdf), 403 (html)

Access:  Closed Access

Cite: Hany Akeel Al-Hussaniy, Zainab Noori Mohammed, Ali H. Alburghaif , Meena Akeel Naji. Panax ginseng as Antioxidant and Anti-inflammatory to reduce the Cardiotoxicity of Doxorubicin on rat module. *Research Journal of Pharmacy and Technology* 2022; 15(10):4594-0. doi: 10.52711/0974-360X.2022.00771 (<https://www.doi.org/10.52711/0974-360X.2022.00771>)

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(AbstractView.aspx?

PID=2022-15-
10-44)

Caregivers' Quality of Life: Comparative Analysis of Psychiatric ward and General Caregivers Quality of Life (AbstractView.aspx?PID=2022-15-10-45)

Author(s): Venkateswaramurthy N, Syed Munavvar VT, Sudha M., Sambathkumar. R

DOI: 10.52711/0974-360X.2022.00772 (<https://www.doi.org/10.52711/0974-360X.2022.00772>)

Views: 0 (pdf), 461 (html)

Access:  Closed Access

Cite: Venkateswaramurthy N, Syed Munavvar VT, Sudha M., Sambathkumar. R. Caregivers' Quality of Life: Comparative Analysis of Psychiatric ward and General Caregivers Quality of Life. *Research Journal of Pharmacy and Technology* 2022; 15(10):4601-6. doi: 10.52711/0974-360X.2022.00772 (<https://www.doi.org/10.52711/0974-360X.2022.00772>)

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(AbstractView.aspx?

PID=2022-15-
10-45)

QSAR and Anticancer effect of Alkyl salicylate on Breast cancer T47D Cells Lines (AbstractView.aspx?PID=2022-15-10-46)

Author(s): Elizabeth Divina, Linda Erlina, Khaerunissa Anbar Istiadi, Elfa Siska Yasa Putri, Fadilah Fadilah

DOI: 10.52711/0974-360X.2022.00773 (<https://www.doi.org/10.52711/0974-360X.2022.00773>)

Views: 0 (pdf), 532 (html)

Access:  Closed Access

Cite: Elizabeth Divina, Linda Erlina, Khaerunissa Anbar Istiadi, Elfa Siska Yasa Putri, Fadilah Fadilah. QSAR and Anticancer effect of Alkyl salicylate on Breast cancer T47D Cells Lines. *Research Journal of Pharmacy and Technology* 2022; 15(10):4607-3. doi: 10.52711/0974-360X.2022.00773 (<https://www.doi.org/10.52711/0974-360X.2022.00773>)

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(AbstractView.aspx?

PID=2022-15-
10-46)

A new stability indicating RP-UFLC method for the estimation of Tapentadol in tablet dosage forms (AbstractView.aspx?PID=2022-15-10-47)

Author(s): Anil Kumar Kota, Mukthinuthalapati Mathrusri Annapurna

DOI: 10.52711/0974-360X.2022.00774 (<https://www.doi.org/10.52711/0974-360X.2022.00774>)

Views: 0 (pdf), 423 (html)

Access:  Closed Access

Cite: Anil Kumar Kota, Mukthinuthalapati Mathrusri Annapurna. A new stability indicating RP-UFLC method for the estimation of Tapentadol in tablet dosage forms. *Research Journal of Pharmacy and Technology* 2022; 15(10):4614-0. doi: 10.52711/0974-360X.2022.00774 (<https://www.doi.org/10.52711/0974-360X.2022.00774>)

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(AbstractView.aspx?

PID=2022-15-

10-47)

Structure Prediction and In-silico Designing of Drugs against Plant Homeodomain Finger Protein 14 for Suppression of Malignant Transformation and Tumorigenicity of Non Small Cell Lung Cancer (AbstractView.aspx?PID=2022-15-10-48)

Author(s): Manish Devgun, Nandini, Lalit Singh, Saurabh Sharma

DOI: 10.52711/0974-360X.2022.00775 (<https://www.doi.org/10.52711/0974-360X.2022.00775>)

Views: 0 (pdf), 517 (html)

Access:  Closed Access

Cite: Manish Devgun, Nandini, Lalit Singh, Saurabh Sharma. Structure Prediction and In-silico Designing of Drugs against Plant Homeodomain Finger Protein 14 for Suppression of Malignant Transformation and Tumorigenicity of Non Small Cell Lung Cancer. *Research Journal of Pharmacy and Technology* 2022; 15(10):4621-6. doi: 10.52711/0974-360X.2022.00775 (<https://www.doi.org/10.52711/0974-360X.2022.00775>)

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(AbstractView.aspx?

PID=2022-15-

10-48)

Antibacterial activity of Tilapia Fish Scales derived Chitosan; Future towards Biomedicines (AbstractView.aspx?PID=2022-15-10-49)

Author(s): Gul-e-Saba Chaudhry, Thirukanthan C S, Nor Atikah Mohamed Zin, Yeong Yik Sung, Tengku Sifzizul Tengku Muhammad, Effendy AWM

DOI: 10.52711/0974-360X.2022.00776 (<https://www.doi.org/10.52711/0974-360X.2022.00776>)

Views: 0 (pdf), 680 (html)

Access:  Closed Access

Cite: Gul-e-Saba Chaudhry, Thirukanthan C S, Nor Atikah Mohamed Zin, Yeong Yik Sung, Tengku Sifzizul Tengku Muhammad, Effendy AWM. Antibacterial activity of Tilapia Fish Scales derived Chitosan; Future towards Biomedicines. *Research Journal of Pharmacy and Technology* 2022; 15(10):4627-2. doi: 10.52711/0974-360X.2022.00776 (<https://www.doi.org/10.52711/0974-360X.2022.00776>)

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(AbstractView.aspx?

PID=2022-15-

10-49)

Pocket reduction with High Concentrated oxygen oral gel: A Preliminary Case Report (AbstractView.aspx?PID=2022-15-10-5)

Author(s): Asha A, MLV Prabhujji, Rashmi P, Roja Y, Shaeesta Khaleelahmed Bhavikatti

DOI: 10.52711/0974-360X.2022.00732 (<https://www.doi.org/10.52711/0974-360X.2022.00732>)

Views: 0 (pdf), 669 (html)

Access:  Closed Access

Cite: Asha A, MLV Prabhujji, Rashmi P, Roja Y, Shaeesta Khaleelahmed Bhavikatti. Pocket reduction with High Concentrated oxygen oral gel: A Preliminary Case Report. *Research Journal of Pharmacy and Technology* 2022; 15(10):4367-1. doi: 10.52711/0974-360X.2022.00732 (<https://www.doi.org/10.52711/0974-360X.2022.00732>)

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(AbstractView.aspx?

PID=2022-15-

10-5)

Gas Chromatography-Mass Spectrometry (GC-MS) Analysis of Volatile components from Coral "BETADINE" (*Jatropha multifida* Linn) Leaves (AbstractView.aspx?PID=2022-15-10-50)

Author(s): Hanafi, Henny Rochaeny, Septilina Melati Sirait, Lintannisa Rahmatia, Sri Redjeki Setyawati

DOI: 10.52711/0974-360X.2022.00777 (<https://www.doi.org/10.52711/0974-360X.2022.00777>)

Views: 0 (pdf), 480 (html)

Access:  Closed Access

Cite: Hanafi, Henny Rochaeny, Septilina Melati Sirait, Lintannisa Rahmatia, Sri Redjeki Setyawati. Gas Chromatography-Mass Spectrometry (GC-MS) Analysis of Volatile components from Coral "BETADINE" (*Jatropha multifida* Linn) Leaves. *Research Journal of Pharmacy and Technology* 2022; 15(10):4633-6. doi: 10.52711/0974-360X.2022.00777 (<https://www.doi.org/10.52711/0974-360X.2022.00777>)

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(AbstractView.aspx?

PID=2022-15-

10-50)

Development and Validation of Simultaneous Estimation of Canagliflozin and Metformin by Q Absorbance Ratio Method in its API and Tablet Formulation (AbstractView.aspx?PID=2022-15-10-51)

Author(s): Vidhi S. Dave, Paresh. U. Patel

DOI: 10.52711/0974-360X.2022.00778 (<https://www.doi.org/10.52711/0974-360X.2022.00778>)

Views: 0 (pdf), 455 (html)

Access:  Closed Access

Cite: Vidhi S. Dave, Paresh. U. Patel. Development and Validation of Simultaneous Estimation of Canagliflozin and Metformin by Q Absorbance Ratio Method in its API and Tablet Formulation. *Research Journal of Pharmacy and Technology* 2022; 15(10):4637-0. doi: 10.52711/0974-360X.2022.00778 (<https://www.doi.org/10.52711/0974-360X.2022.00778>)

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(AbstractView.aspx?

PID=2022-15-

10-51)

QSAR of Acyl pinostrobin derivatives as Anti-breast cancer against HER-2 receptor and their ADMET properties based on in silico Study (AbstractView.aspx?PID=2022-15-10-52)

Author(s): Salsa Lina Agustin, Tri Widiandani, Suko Hardjono, Bambang Tri Purwanto

DOI: 10.52711/0974-360X.2022.00779 (<https://www.doi.org/10.52711/0974-360X.2022.00779>)

Views: 0 (pdf), 589 (html)

Access:  Closed Access

Cite: Salsa Lina Agustin, Tri Widiandani, Suko Hardjono, Bambang Tri Purwanto. QSAR of Acyl pinostrobin derivatives as Anti-breast cancer against HER-2 receptor and their ADMET properties based on in silico Study. *Research Journal of Pharmacy and Technology* 2022; 15(10):4641-8. doi: 10.52711/0974-360X.2022.00779 (<https://www.doi.org/10.52711/0974-360X.2022.00779>)

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(AbstractView.aspx?
PID=2022-15-
10-52)

Formulation and Characterization of Phythosomal Topical Gel of Ocimum Basilicum (AbstractView.aspx?PID=2022-15-10-53)

Author(s): Megha P. Raj, C. Rubina Reichal, S. Manju, M. Shobana, M. Sangeetha

DOI: 10.52711/0974-360X.2022.00780 (<https://www.doi.org/10.52711/0974-360X.2022.00780>)

Views: 0 (pdf), 607 (html)

Access:  Closed Access

Cite: Megha P. Raj, C. Rubina Reichal, S. Manju, M. Shobana, M. Sangeetha. Formulation and Characterization of Phythosomal Topical Gel of Ocimum Basilicum. *Research Journal of Pharmacy and Technology* 2022; 15(10):4649-4. doi: 10.52711/0974-360X.2022.00780 (<https://www.doi.org/10.52711/0974-360X.2022.00780>)

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(AbstractView.aspx?
PID=2022-15-
10-53)

Toxic effects of Cyclophosphamide on Hepatic and Kidney tissues in Albino Mice Model (AbstractView.aspx?PID=2022-15-10-54)

Author(s): Zahraa Zuhair Alsaidi, Haider H. Humaish, Amer Alasadi

DOI: 10.52711/0974-360X.2022.00781 (<https://www.doi.org/10.52711/0974-360X.2022.00781>)

Views: 0 (pdf), 492 (html)

Access:  Closed Access

Cite: Zahraa Zuhair Alsaidi, Haider H. Humaish, Amer Alasadi. Toxic effects of Cyclophosphamide on Hepatic and Kidney tissues in Albino Mice Model. *Research Journal of Pharmacy and Technology* 2022; 15(10):4655-9. doi: 10.52711/0974-360X.2022.00781 (<https://www.doi.org/10.52711/0974-360X.2022.00781>)

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(AbstractView.aspx?
PID=2022-15-
10-54)

Knowledge, Attitude, and Medication Practice on Antibiotics among a rural population in Kedah, Malaysia (AbstractView.aspx?PID=2022-15-10-55)

Author(s): Swe SL, YT Liau, YJ Wong, SY Li, KC Chia, WK Lee, Leela A, Khaing IK, Devaraj. S

DOI: 10.52711/0974-360X.2022.00782 (<https://www.doi.org/10.52711/0974-360X.2022.00782>)

Views: 0 (pdf), 424 (html)

Access:  Closed Access

Cite: Swe SL, YT Liau, YJ Wong, SY Li, KC Chia, WK Lee, Leela A, Khaing IK, Devaraj. S. Knowledge, Attitude, and Medication Practice on Antibiotics among a rural population in Kedah, Malaysia. *Research Journal of Pharmacy and Technology* 2022; 15(10):4660-6. doi: 10.52711/0974-360X.2022.00782 (<https://www.doi.org/10.52711/0974-360X.2022.00782>)

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(AbstractView.aspx?
PID=2022-15-
10-55)

Design of Amide bioisosteres of Flutamide as Novel Androgen Receptor Antagonist in Prostate Cancer Therapy (AbstractView.aspx?PID=2022-15-10-56)

Author(s): *Ajay K. Gupta, Sanmati K. Jain*

DOI: 10.52711/0974-360X.2022.00783 (<https://www.doi.org/10.52711/0974-360X.2022.00783>)

Views: 0 (pdf), 462 (html)

Access:  Closed Access

Cite: *Ajay K. Gupta, Sanmati K. Jain. Design of Amide bioisosteres of Flutamide as Novel Androgen Receptor Antagonist in Prostate Cancer Therapy. Research Journal of Pharmacy and Technology 2022; 15(10):4667-6. doi: 10.52711/0974-360X.2022.00783 (<https://www.doi.org/10.52711/0974-360X.2022.00783>)*

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(AbstractView.aspx?
PID=2022-15-
10-56)

Molecular typing of MDR-K. pneumoniae using ERIC-PCR Technique (AbstractView.aspx?PID=2022-15-10-57)

Author(s): *Nihad Shahadha Abed, Ergin Kariptaş, Safaa Abed Lateef*

DOI: 10.52711/0974-360X.2022.00784 (<https://www.doi.org/10.52711/0974-360X.2022.00784>)

Views: 0 (pdf), 547 (html)

Access:  Closed Access

Cite: *Nihad Shahadha Abed, Ergin Kariptaş, Safaa Abed Lateef. Molecular typing of MDR-K. pneumoniae using ERIC-PCR Technique. Research Journal of Pharmacy and Technology 2022; 15(10):4677-0. doi: 10.52711/0974-360X.2022.00784 (<https://www.doi.org/10.52711/0974-360X.2022.00784>)*

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(AbstractView.aspx?
PID=2022-15-
10-57)

Natural Gums and Mucilage as Gelling agents in Topical Gel Formulation (AbstractView.aspx?PID=2022-15-10-58)

Author(s): *Krishna Kumari J, Bandaru Hemanth Kumar, Prasanthi D*

DOI: 10.52711/0974-360X.2022.00785 (<https://www.doi.org/10.52711/0974-360X.2022.00785>)

Views: 0 (pdf), 525 (html)

Access:  Closed Access

Cite: *Krishna Kumari J, Bandaru Hemanth Kumar, Prasanthi D. Natural Gums and Mucilage as Gelling agents in Topical Gel Formulation. Research Journal of Pharmacy and Technology 2022; 15(10):4681-6. doi: 10.52711/0974-360X.2022.00785 (<https://www.doi.org/10.52711/0974-360X.2022.00785>)*

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(AbstractView.aspx?
PID=2022-15-
10-58)

Comparison of Complete Blood Count Parameters using EDTA, Sodium Citrate, and Heparin Anticoagulants (AbstractView.aspx?PID=2022-15-10-59)

Author(s): *Anak Agung Made Sedana Putra, Yetti Hermaningsih*

DOI: 10.52711/0974-360X.2022.00786 (<https://www.doi.org/10.52711/0974-360X.2022.00786>)

Views: 0 (pdf), 1042 (html)

Access:  Closed Access

Cite: *Anak Agung Made Sedana Putra, Yetti Hermaningsih. Comparison of Complete Blood Count Parameters using EDTA, Sodium Citrate, and Heparin Anticoagulants. Research Journal of Pharmacy and Technology 2022; 15(10):4687-1. doi: 10.52711/0974-360X.2022.00786 (<https://www.doi.org/10.52711/0974-360X.2022.00786>)*

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(AbstractView.aspx?
PID=2022-15-
10-59)

Alpinea galanga (L) Extracts Decreases TSH Levels and Balances tri-iodothyronine (T3), Thyroxine (T4) levels with protective effect on Thyroid Tissue in Wistar Rats with Thyroid Disorder (AbstractView.aspx?PID=2022-15-10-6)

Author(s): Ritu Sanwal, Madan Lal Kaushik, Shradha Bisht

DOI: 10.52711/0974-360X.2022.00733 (<https://www.doi.org/10.52711/0974-360X.2022.00733>)

Views: 0 (pdf), 567 (html)

Access:  Closed Access

Cite: Ritu Sanwal, Madan Lal Kaushik, Shradha Bisht. *Alpinea galanga (L) Extracts Decreases TSH Levels and Balances tri-iodothyronine (T3), Thyroxine (T4) levels with protective effect on Thyroid Tissue in Wistar Rats with Thyroid Disorder. Research Journal of Pharmacy and Technology* 2022; 15(10):4372-6. doi: 10.52711/0974-360X.2022.00733 (<https://www.doi.org/10.52711/0974-360X.2022.00733>)

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(AbstractView.aspx?

PID=2022-15-10-6)

Isolation of Isoflavones from Iraqi Trifolium pretense (AbstractView.aspx?PID=2022-15-10-60)

Author(s): Noor Mohsen Naseer, Talal A. Aburjai, Ibrahim S. Al-Jubori

DOI: 10.52711/0974-360X.2022.00787 (<https://www.doi.org/10.52711/0974-360X.2022.00787>)

Views: 0 (pdf), 345 (html)

Access:  Closed Access

Cite: Noor Mohsen Naseer, Talal A. Aburjai, Ibrahim S. Al-Jubori. *Isolation of Isoflavones from Iraqi Trifolium pretense. Research Journal of Pharmacy and Technology* 2022; 15(10):4692-6. doi: 10.52711/0974-360X.2022.00787 (<https://www.doi.org/10.52711/0974-360X.2022.00787>)

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(AbstractView.aspx?

PID=2022-15-10-60)

The effect of vitamin D and Physical exercise on glycaemic control in patients with Type 2 Diabetes Mellitus(DM) (AbstractView.aspx?PID=2022-15-10-61)

Author(s): Mehwish Majeed, Shaheena Rasool, Tauseef Nazir, Mohd. Adil

DOI: 10.52711/0974-360X.2022.00788 (<https://www.doi.org/10.52711/0974-360X.2022.00788>)

Views: 0 (pdf), 419 (html)

Access:  Closed Access

Cite: Mehwish Majeed, Shaheena Rasool, Tauseef Nazir, Mohd. Adil. *The effect of vitamin D and Physical exercise on glycaemic control in patients with Type 2 Diabetes Mellitus(DM). Research Journal of Pharmacy and Technology* 2022; 15(10):4697-0. doi: 10.52711/0974-360X.2022.00788 (<https://www.doi.org/10.52711/0974-360X.2022.00788>)

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(AbstractView.aspx?

PID=2022-15-10-61)

Cone-beam Computed Tomography Evaluation of Non-surgical management of a Large Periapical Lesion using Calcium hydroxide intracanal medicament: A 1-year follow-up case report (AbstractView.aspx?PID=2022-15-10-62)

Author(s): Nagaraj. N J, Ravikumar Nesamani, Mahalaxmi Sekar, Pallavi. S

DOI: 10.52711/0974-360X.2022.00789 (<https://www.doi.org/10.52711/0974-360X.2022.00789>)

Views: 0 (pdf), 525 (html)

Access:  Closed Access

Cite: Nagaraj. N J, Ravikumar Nesamani, Mahalaxmi Sekar, Pallavi. S. Cone-beam Computed Tomography Evaluation of Non-surgical management of a Large Periapical Lesion using Calcium hydroxide intracanal medicament: A 1-year follow-up case report. *Research Journal of Pharmacy and Technology* 2022; 15(10):4701-4. doi: 10.52711/0974-360X.2022.00789 (<https://www.doi.org/10.52711/0974-360X.2022.00789>)

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(AbstractView.aspx?
PID=2022-15-
10-62)

Presepsin Levels in Positive and Negative Blood Cultures of Febrile Neutropenic Pediatric Patients with Malignancies in Dr. Soetomo General Hospital, Surabaya, Indonesia (AbstractView.aspx?PID=2022-15-10-63)

Author(s): Pande Putu Rangga Raditya, I Dewa Gede Ugrasena, Puspa Wardhani

DOI: 10.52711/0974-360X.2022.00790 (<https://www.doi.org/10.52711/0974-360X.2022.00790>)

Views: 0 (pdf), 449 (html)

Access:  Closed Access

Cite: Pande Putu Rangga Raditya, I Dewa Gede Ugrasena, Puspa Wardhani. Presepsin Levels in Positive and Negative Blood Cultures of Febrile Neutropenic Pediatric Patients with Malignancies in Dr. Soetomo General Hospital, Surabaya, Indonesia. *Research Journal of Pharmacy and Technology* 2022; 15(10):4705-8. doi: 10.52711/0974-360X.2022.00790 (<https://www.doi.org/10.52711/0974-360X.2022.00790>)

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(AbstractView.aspx?
PID=2022-15-
10-63)

Method Development and Validation for simultaneous Quantification of Remogliflozin and Metformin in Bulk and Tablets by RP-HPLC (AbstractView.aspx?PID=2022-15-10-64)

Author(s): Amit Chaudhary, Bhuvnesh Kumar Singh

DOI: 10.52711/0974-360X.2022.00791 (<https://www.doi.org/10.52711/0974-360X.2022.00791>)

Views: 0 (pdf), 716 (html)

Access:  Closed Access

Cite: Amit Chaudhary, Bhuvnesh Kumar Singh. Method Development and Validation for simultaneous Quantification of Remogliflozin and Metformin in Bulk and Tablets by RP-HPLC. *Research Journal of Pharmacy and Technology* 2022; 15(10):4709-4. doi: 10.52711/0974-360X.2022.00791 (<https://www.doi.org/10.52711/0974-360X.2022.00791>)

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(AbstractView.aspx?
PID=2022-15-
10-64)

Effect of Afghan *Withania coagulans* L. and *Ferula assa-foetida* L. extracts combination on Blood Glucose Level of Diabetic rats (AbstractView.aspx?PID=2022-15-10-65)

Author(s): Kawsar Alami, Sayed Yousof Mousavi

DOI: 10.52711/0974-360X.2022.00792 (<https://www.doi.org/10.52711/0974-360X.2022.00792>)

Views: 0 (pdf), 591 (html)

Access:  Closed Access

Cite: Kawsar Alami, Sayed Yousof Mousavi. Effect of Afghan *Withania coagulans* L. and *Ferula assa-foetida* L. extracts combination on Blood Glucose Level of Diabetic rats. *Research Journal of Pharmacy and Technology* 2022; 15(10):4715-9. doi: 10.52711/0974-360X.2022.00792 (<https://www.doi.org/10.52711/0974-360X.2022.00792>)

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(AbstractView.aspx?

PID=2022-15-10-65)

Identification of active compound and Antibacterial activity against gram-positive and gram-negative bacteria of *Chromolaena odorata* leaf extract (AbstractView.aspx?PID=2022-15-10-66)

Author(s): Zainab, Nurlailah, Muhammad Ikhwan Rizki

DOI: 10.52711/0974-360X.2022.00793 (<https://www.doi.org/10.52711/0974-360X.2022.00793>)

Views: 0 (pdf), 478 (html)

Access:  Closed Access

Cite: Zainab, Nurlailah, Muhammad Ikhwan Rizki. Identification of active compound and Antibacterial activity against gram-positive and gram-negative bacteria of *Chromolaena odorata* leaf extract. *Research Journal of Pharmacy and Technology* 2022; 15(10):4720-6. doi: 10.52711/0974-360X.2022.00793 (<https://www.doi.org/10.52711/0974-360X.2022.00793>)

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(AbstractView.aspx?

PID=2022-15-10-66)

In vitro Study for Antibiotic resistance of bacteria causing Urinary Tract Infection from Syrian adults (AbstractView.aspx?PID=2022-15-10-67)

Author(s): Ayat Abbood, Zeina Malek, Yasser Al-Homsh, Nasser Thallaj

DOI: 10.52711/0974-360X.2022.00794 (<https://www.doi.org/10.52711/0974-360X.2022.00794>)

Views: 0 (pdf), 551 (html)

Access:  Closed Access

Cite: Ayat Abbood, Zeina Malek, Yasser Al-Homsh, Nasser Thallaj. In vitro Study for Antibiotic resistance of bacteria causing Urinary Tract Infection from Syrian adults. *Research Journal of Pharmacy and Technology* 2022; 15(10):4727-2. doi: 10.52711/0974-360X.2022.00794 (<https://www.doi.org/10.52711/0974-360X.2022.00794>)

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(AbstractView.aspx?

PID=2022-15-10-67)

Brucellar Spondylitis causes Alteration in Serum protein and Electrophoretic pattern (AbstractView.aspx?PID=2022-15-10-68)

Author(s): Ekhlass M. Taha, Muzahem Mohialdeen Taha, Jinan Hameed Abu-Shana, Saleh M. Rahim, Mays Mohammed Abdullah

DOI: 10.52711/0974-360X.2022.00795 (<https://www.doi.org/10.52711/0974-360X.2022.00795>)

Views: 0 (pdf), 409 (html)

Access:  Closed Access

Cite: Ekhlass M. Taha, Muzahem Mohialdeen Taha, Jinan Hameed Abu-Shana, Saleh M. Rahim, Mays Mohammed Abdullah. Brucellar Spondylitis causes Alteration in Serum protein and Electrophoretic pattern. *Research Journal of Pharmacy and Technology* 2022; 15(10):4733-8. doi: 10.52711/0974-360X.2022.00795 (<https://www.doi.org/10.52711/0974-360X.2022.00795>)

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(AbstractView.aspx?

PID=2022-15-10-68)

Anticancer activity of Peronema canescens Jack leaves extracts against human cells: HT-29 and HeLa in vitro (AbstractView.aspx?PID=2022-15-10-69)

Author(s): Arsyik Ibrahim1,2*, Siswandono Siswandono3, Bambang Prajogo EW

DOI: 10.52711/0974-360X.2022.00796 (<https://www.doi.org/10.52711/0974-360X.2022.00796>)

Views: 0 (pdf), 579 (html)

Access:  Closed Access

Cite: Arsyik Ibrahim1,2*, Siswandono Siswandono3, Bambang Prajogo EW. Anticancer activity of Peronema canescens Jack leaves extracts against human cells: HT-29 and HeLa in vitro. *Research Journal of Pharmacy and Technology* 2022; 15(10):4739-5. doi: 10.52711/0974-360X.2022.00796 (<https://www.doi.org/10.52711/0974-360X.2022.00796>)

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(AbstractView.aspx?

PID=2022-15-10-69)

Studying the Anti-Cancer Activity of Resveratrol 1,3,4-Thiadiazol Derivatives (AbstractView.aspx?PID=2022-15-10-7)

Author(s): Shahlaa Zuhair Abdul-Majeed, Sarah A. Hamood, Ashour H. Dawood

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PID=2022-15-10-7)

Phenotypical identification, Mycochemicals, Proximate composition and Antifungal activity of *Fulvifomes fastuosus* (Lév.) Bondartseva and *S. herrera* from India. (AbstractView.aspx?PID=2022-15-10-70)

Author(s): Praveen Kumar Nagadesi, Akella. V. K. S. N. Pratyusha

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Cite: Praveen Kumar Nagadesi, Akella. V. K. S. N. Pratyusha. Phenotypical identification, Mycochemicals, Proximate composition and Antifungal activity of *Fulvifomes fastuosus* (Lév.) Bondartseva and *S. herrera* from India. *Research Journal of Pharmacy and Technology* 2022; 15(10):4746-2. doi: 10.52711/0974-360X.2022.00797 (<https://www.doi.org/10.52711/0974-360X.2022.00797>)

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PID=2022-15-10-70)

Correlation between Interleukin-6, CRP, and LDH in COVID-19 patients of Dr. Soetomo Teaching Hospital, Surabaya, Indonesia (AbstractView.aspx?PID=2022-15-10-71)

Author(s): Christophorus Oetama Adiatmaja, Jusak Nugraha, Arie Utariani

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Cite: Christophorus Oetama Adiatmaja, Jusak Nugraha, Arie Utariani. Correlation between Interleukin-6, CRP, and LDH in COVID-19 patients of Dr. Soetomo Teaching Hospital, Surabaya, Indonesia. *Research Journal of Pharmacy and Technology* 2022; 15(10):4753-7. doi: 10.52711/0974-360X.2022.00798 (<https://www.doi.org/10.52711/0974-360X.2022.00798>)

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PID=2022-15-10-71)

Design and Evaluation of Pulsincap System Containing Nanosuspension of Montelukast Sodium for Chronotherapy in Asthma (AbstractView.aspx?PID=2022-15-10-72)

Author(s): Sowmya Cherukuri, Lavakumar Vuppapapati, Venkateshan Narayanan

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Effect of Andrographolide and Resveratrol on OX1R and Prepro-orexin mRNA expression in CIPN-induced hypothalamus of mice with oxaliplatin (AbstractView.aspx?PID=2022-15-10-73)

Author(s): *Chrismawan Ardianto, Ardian Lestari Judoko, Mirza Aprilia, Dinda Monika Nusantara Ratri, Toetik Ariyani, Mahardian Rahmadi, Junaidi Khotib*

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Cite: *Chrismawan Ardianto, Ardian Lestari Judoko, Mirza Aprilia, Dinda Monika Nusantara Ratri, Toetik Ariyani, Mahardian Rahmadi, Junaidi Khotib. Effect of Andrographolide and Resveratrol on OX1R and Prepro-orexin mRNA expression in CIPN-induced hypothalamus of mice with oxaliplatin. Research Journal of Pharmacy and Technology 2022; 15(10):4765-1. doi: 10.52711/0974-360X.2022.00800 (<https://www.doi.org/10.52711/0974-360X.2022.00800>)*

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(AbstractView.aspx?
PID=2022-15-
10-73)

A retrospective clinicopathological study of inherited bleeding disorders in a tertiary care centre of Uttar Pradesh (AbstractView.aspx?PID=2022-15-10-74)

Author(s): *Deepa Rani, Pawan Pandey, Anu Singh, Sandip Kumar*

DOI: 10.52711/0974-360X.2022.00801 (<https://www.doi.org/10.52711/0974-360X.2022.00801>)

Views: 0 (pdf), 363 (html)

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Cite: *Deepa Rani, Pawan Pandey, Anu Singh, Sandip Kumar. A retrospective clinicopathological study of inherited bleeding disorders in a tertiary care centre of Uttar Pradesh. Research Journal of Pharmacy and Technology 2022; 15(10):4772-6. doi: 10.52711/0974-360X.2022.00801 (<https://www.doi.org/10.52711/0974-360X.2022.00801>)*

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PID=2022-15-
10-74)

Study on effect of Sorafenib: With Special Reference to Alterations in Histopathological Parameters in Male Swiss Albino Mice (AbstractView.aspx?PID=2022-15-10-75)

Author(s): *Surekha D Shetty, K. Laxminarayana Bairy, Mohandas Rao K.G., Naveen Kumar*

DOI: 10.52711/0974-360X.2022.00802 (<https://www.doi.org/10.52711/0974-360X.2022.00802>)

Views: 0 (pdf), 332 (html)

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Cite: *Surekha D Shetty, K. Laxminarayana Bairy, Mohandas Rao K.G., Naveen Kumar. Study on effect of Sorafenib: With Special Reference to Alterations in Histopathological Parameters in Male Swiss Albino Mice. Research Journal of Pharmacy and Technology 2022; 15(10):4777-2. doi: 10.52711/0974-360X.2022.00802 (<https://www.doi.org/10.52711/0974-360X.2022.00802>)*

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PID=2022-15-
10-75)

Are there effects of Extract Coffee Robust Lampung as Immunonutrition in Chicken against Salmonellosis? (AbstractView.aspx?PID=2022-15-10-76)

Author(s): Liliik Eka R, Djalal Rosyidi, Dahliatul Qosimah, Indah Amalia A, Dodik Prasetyo, Agri Kaltaria A

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Cite: Liliik Eka R, Djalal Rosyidi, Dahliatul Qosimah, Indah Amalia A, Dodik Prasetyo, Agri Kaltaria A. Are there effects of Extract Coffee Robust Lampung as Immunonutrition in Chicken against Salmonellosis?. *Research Journal of Pharmacy and Technology* 2022; 15(10):4783-8. doi: 10.52711/0974-360X.2022.00803 (<https://www.doi.org/10.52711/0974-360X.2022.00803>)

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PID=2022-15-10-76)

Comparison of Herbal formulation and Herbal extracts of seeds and fruits of selected medicinal plants for Antidiabetic Enzyme Inhibitory Studies (AbstractView.aspx?PID=2022-15-10-77)

Author(s): L. Ashwini, G. Nidhya, S. Latha, D. Chamundeeswari

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Cite: L. Ashwini, G. Nidhya, S. Latha, D. Chamundeeswari. Comparison of Herbal formulation and Herbal extracts of seeds and fruits of selected medicinal plants for Antidiabetic Enzyme Inhibitory Studies. *Research Journal of Pharmacy and Technology* 2022; 15(10):4789-4. doi: 10.52711/0974-360X.2022.00804 (<https://www.doi.org/10.52711/0974-360X.2022.00804>)

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PID=2022-15-10-77)

Determination of Saturated Ketoconazole Solubility Using Spectrophotometry Uv-Vis Method (AbstractView.aspx?PID=2022-15-10-78)

Author(s): Viviane Annisa, Teuku Nanda Saifullah Sulaiman, Akhmad Kharis Nugroho, Agung Endro Nugroho

DOI: 10.52711/0974-360X.2022.00805 (<https://www.doi.org/10.52711/0974-360X.2022.00805>)

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Cite: Viviane Annisa, Teuku Nanda Saifullah Sulaiman, Akhmad Kharis Nugroho, Agung Endro Nugroho. Determination of Saturated Ketoconazole Solubility Using Spectrophotometry Uv-Vis Method. *Research Journal of Pharmacy and Technology* 2022; 15(10):4795-0. doi: 10.52711/0974-360X.2022.00805 (<https://www.doi.org/10.52711/0974-360X.2022.00805>)

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PID=2022-15-10-78)

Extract of Gigartina sp for Antibacterial Activities on Escherichia coli and Staphylococcus sp. (AbstractView.aspx?PID=2022-15-10-79)

Author(s): Fransisca Shinta Maharini, Nisha Nambiar, Sandeep Poddar

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Access:  Closed Access

Cite: Fransisca Shinta Maharini, Nisha Nambiar, Sandeep Poddar. Extract of Gigartina sp for Antibacterial Activities on Escherichia coli and Staphylococcus sp. *Research Journal of Pharmacy and Technology* 2022; 15(10):4801-6. doi: 10.52711/0974-360X.2022.00806 (<https://www.doi.org/10.52711/0974-360X.2022.00806>)

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PID=2022-15-10-79)

Healthcare schemes for Hemodialysis patients in India: An Overview and Utilization in selected hospitals (AbstractView.aspx?PID=2022-15-10-8)

Author(s): Gangadhar Naik, Virendra Ligade, Shankar Prasad, Vasudeva Guddattu, Sreedhar D

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Cite: Gangadhar Naik, Virendra Ligade, Shankar Prasad, Vasudeva Guddattu, Sreedhar D. Healthcare schemes for Hemodialysis patients in India: An Overview and Utilization in selected hospitals. *Research Journal of Pharmacy and Technology* 2022; 15(10):4382-8. doi: 10.52711/0974-360X.2022.00735 (<https://www.doi.org/10.52711/0974-360X.2022.00735>)

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PID=2022-15-10-8)

Analysis of CBC and FCMC Clustering approaches for Skin Melanoma Segmentation using Dermoscopic Images (AbstractView.aspx?PID=2022-15-10-80)

Author(s): Maniraj S P, Sardar Maran P

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Cite: Maniraj S P, Sardar Maran P. Analysis of CBC and FCMC Clustering approaches for Skin Melanoma Segmentation using Dermoscopic Images. *Research Journal of Pharmacy and Technology* 2022; 15(10):4807-1. doi: 10.52711/0974-360X.2022.00807 (<https://www.doi.org/10.52711/0974-360X.2022.00807>)

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PID=2022-15-10-80)

Ensuring safety of Novel Oral Anticoagulants Predictable Dose Response Relationship (AbstractView.aspx?PID=2022-15-10-81)

Author(s): Goutham Yerrakula, Samuel Gideon George, PR Anand Vijaya Kumar, Krishna Kumar D, Senthil Venkatachalam

DOI: 10.52711/0974-360X.2022.00808 (<https://www.doi.org/10.52711/0974-360X.2022.00808>)

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Cite: Goutham Yerrakula, Samuel Gideon George, PR Anand Vijaya Kumar, Krishna Kumar D, Senthil Venkatachalam. Ensuring safety of Novel Oral Anticoagulants Predictable Dose Response Relationship. *Research Journal of Pharmacy and Technology* 2022; 15(10):4812-8. doi: 10.52711/0974-360X.2022.00808 (<https://www.doi.org/10.52711/0974-360X.2022.00808>)

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A Review of Dental Caries Classification Systems (AbstractView.aspx?PID=2022-15-10-82)

Author(s): Shruthi. M, Daya Srinivasan, Senthil Eagappan, Joe Louis, Divya Natarajan, Saraswathy Meena

DOI: 10.52711/0974-360X.2022.00809 (<https://www.doi.org/10.52711/0974-360X.2022.00809>)

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Cite: Shruthi. M, Daya Srinivasan, Senthil Eagappan, Joe Louis, Divya Natarajan, Saraswathy Meena. A Review of Dental Caries Classification Systems. *Research Journal of Pharmacy and Technology* 2022; 15(10):4819-4. doi: 10.52711/0974-360X.2022.00809 (<https://www.doi.org/10.52711/0974-360X.2022.00809>)

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PID=2022-15-10-82)

Role of Microbiota in Health and Disease (AbstractView.aspx?PID=2022-15-10-83)

Author(s): Mohammed Mukhles Ahmed, Munaf Shallal Farhan, Anas Abdullah Hamad, Ali Ibrahim Edan

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Cite: Mohammed Mukhles Ahmed, Munaf Shallal Farhan, Anas Abdullah Hamad, Ali Ibrahim Edan. Role of Microbiota in Health and Disease. *Research Journal of Pharmacy and Technology* 2022; 15(10):4825-8. doi: 10.52711/0974-360X.2022.00810 (<https://www.doi.org/10.52711/0974-360X.2022.00810>)

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PID=2022-15-
10-83)

Role of Surfactant and Co-surfactant in Microemulsion: A Review (AbstractView.aspx?PID=2022-15-10-84)

Author(s): Sagar N. Ande, Krutika B. Sonone, Ravindrakumar L. Bakal, Prashant V. Ajmire, Harigopal S. Sawarkar

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Cite: Sagar N. Ande, Krutika B. Sonone, Ravindrakumar L. Bakal, Prashant V. Ajmire, Harigopal S. Sawarkar. Role of Surfactant and Co-surfactant in Microemulsion: A Review. *Research Journal of Pharmacy and Technology* 2022; 15(10):4829-4. doi: 10.52711/0974-360X.2022.00811 (<https://www.doi.org/10.52711/0974-360X.2022.00811>)

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PID=2022-15-
10-84)

Microsponge Drug Delivery System: Emerging Technique in Novel Drug Delivery System and Recent Advances (AbstractView.aspx?PID=2022-15-10-85)

Author(s): Anshika Choudhary, Md. Semimul Akhtar

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Cite: Anshika Choudhary, Md. Semimul Akhtar. Microsponge Drug Delivery System: Emerging Technique in Novel Drug Delivery System and Recent Advances. *Research Journal of Pharmacy and Technology* 2022; 15(10):4835-0. doi: 10.52711/0974-360X.2022.00812 (<https://www.doi.org/10.52711/0974-360X.2022.00812>)

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(AbstractView.aspx?
PID=2022-15-
10-85)

A Review on Freeze-drying: A Stability Enhancement Technique (AbstractView.aspx?PID=2022-15-10-86)

Author(s): Silambarasan I, Rajalakshmi AN

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Cite: Silambarasan I, Rajalakshmi AN. A Review on Freeze-drying: A Stability Enhancement Technique. *Research Journal of Pharmacy and Technology* 2022; 15(10):4841-6. doi: 10.52711/0974-360X.2022.00813 (<https://www.doi.org/10.52711/0974-360X.2022.00813>)

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10-86)

RESEARCH ARTICLE

Effect of Andrographolide and Resveratrol on OX1R and Prepro-orexin mRNA expression in CIPN-induced hypothalamus of mice with oxaliplatin

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ABSTRACT:

Chemotherapy-induced peripheral neuropathy (CIPN) is a one of side effect in cancer patients that receive antineoplastic agent, like oxaliplatin. Orexinergic system in the hypothalamus is the one of system that modulate nociceptive and neuropathy. Because there is flavonoids such as resveratrol and andrographolide that may prevent chemotherapy induced peripheral neuropathy, this study analyzed effects of andrographolide and resveratrol treatment on PPOrx and OX1R mRNA expression in hypothalamic oxaliplatin-induced mice.

Materials and Methods This study was conducted for 22 days in mice. Mice injected with oxaliplatin followed by andrographolide or resveratrol. Chemotherapy induced peripheral neuropathic pain was assessed based on withdrawal threshold, mRNA PPOrx expression, and mRNA OX1R expression. **Results** The results showed that intraperitoneal injection of 100mg/kg resveratrol and 20mg/kg andrographolide increased the withdrawal threshold after oxaliplatin induction. Resveratrol administration also increased the relative expression of PPOrx mRNA significantly, but not the OX1R mRNA relative expression. On the other hand, administration of andrographolide did not cause a change in the expression of PPOrx and OX1R in the hypothalamus.

Conclusions Intraperitoneal injection of andrographolide and resveratrol reduces the mechanical allodynia response in oxaliplatin-induced mice significantly. The mechanism of andrographolide increases the withdrawal threshold does not via the orexinergic system, but the mechanism of resveratrol via the orexinergic system.

KEYWORDS: Antioxidant, Cancer, CIPN, Hypothalamus, Orexin.

INTRODUCTION:

Neuropathic pain is pain that caused by a lesion or disorder in the somatosensory nervous system¹. It occur in the central nervous system (CNS) or peripheral nervous system (PNS) depending on the location of the lesion². Common conditions associated with neuropathic pain include diabetic, HIV infection, leprosy, amputation, and stroke. Peripheral neuropathic pain occurs due to aging and the consequence of chemotherapy on cancer survivor, which affect all sensory fibres (A β , A δ , and C fibres)³. Oxaliplatin is a third-generation platinum chemotherapeutic agent used in the first-line treatment of colon cancer. The use of oxaliplatin may cause acute and chronic side effects of peripheral neuropathy with the highest incidence.

Oxaliplatin is rapid nonenzymatic transformation to reactive platinum and leaving-group oxalate. Reactive platinum binds to mitochondrial DNA to form platinum–mDNA complexes, which causes neurotoxicity in dorsal root ganglion (DRG) and responsible for the initiation of chronic peripheral neuropathy. On other hand, oxalates are known to be Ca²⁺ and Mg²⁺ chelators, may lower the mechanical threshold, and are thought to be responsible for acute neuropathy⁴. Oxaliplatin administration activates microglia and astrocytes which have a significant effect on the inflammatory process⁵. This activation causes the release of pro-inflammatory cytokines such as interleukins and chemokines that cause peripheral nerve hyperexcitability leading to neuroinflammation⁴.

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Treatment or prevention of these adverse effects using various available approaches is inadequate. Therefore, the search for neuroprotective agents that may prevent

or reduce the side effect is imperative need. Natural compounds like Andrographolide and Resveratrol can be candidates to be adjuvant treatment to treat chemotherapy-induced peripheral neuropathy. Andrographolide is one of the secondary metabolites that are widely found in the plant *Andrographis paniculata* Ness. Andrographolide act as an anti-inflammatory, analgesic, and antioxidant agent^{6,7}. Resveratrol (3,5,4'-trihydroxystilbene) is a naturally stilbene-derived polyphenolic compound found in several plants such as grape skins⁹. Studies revealed that resveratrol has neuroprotective and antiallodynic effects in different experimental models of nervous system injury and or persistent pain⁸. Resveratrol is identified as a potent activator of SIRT1 and activates Nrf2, which plays a role in upregulation of antioxidant genes and reduce oxidative stress^{11,12}. Administration of resveratrol downregulates the M1 form of microglia that secretes pro-inflammatory cytokines and upregulates the M2 form of microglia that secretes anti-inflammatory cytokines¹⁰.

There is a part of the brain that plays a role in pain regulation, namely the hypothalamus. Hypothalamus linked the sympathetic and parasympathetic nervous systems to the preganglionic nerves. Changes in the hypothalamus may cause disturbances in the body's homeostatic functions. In the study of Crowell et al. (2016), there was a change in the MMP-2 marker in the hypothalamus after mice induced spinal cord injury (SCI) and caused neuropathic pain¹³. In the hypothalamus, the orexinergic system plays a role in neuropathic pain regulation¹⁴.

Orexins (Orx) are endogenous neuropeptides produced from a prepro-orexin (PPOrx) molecule and cleaved into two isoforms, orexin-A and orexin-B. Orexinergic system also have two G-protein coupled receptors (GPCR), orexin 1 receptor (OX1R) and orexin 2 receptor (OX2R)¹⁵. The orexinergic system influences energy metabolism and pain regulation. Ablation of orexin nerves causes mechanical allodynia and thermal hyperalgesia in mice¹⁶. Based on the research of Duffy et al. (2015), OX1R that bound to orexin-A prevents the activation of M1 microglia and prevent the production of proinflammatory cytokines such as TNF-, IL-6, and iNOS in microglia¹⁷. In addition, orexin-A also increases the activation of M2-type microglia and increase the production of anti-inflammatory cytokines¹⁷. However, there is no information regarding the involvement of OX1R and prepro-orexin in the neuroprotection mechanism of andrographolide and resveratrol in oxaliplatin-induced peripheral neuropathy models. Therefore, the present study was designed to evaluate the influence of andrographolide and resveratrol on the hypothalamus' orexinergic systems in an experimental model of oxaliplatin-induced neuropathy.

MATERIALS AND METHODS:

Animals:

Experiments were performed in male Balb/c mice weighing 22-26g. Animals were housed in cages lined with sawdust. The mice are maintained under a 12 h light/dark cycle and provided free access to water and rodent chow ad libitum. Animals underwent an acclimatization period of at least 7 days before use in our study.

Murine Models of Chemotherapy Induced Peripheral Neuropathy:

Forty-eight male BALB/c mice were randomly divided into 8 groups (n=6), normal group, oxaliplatin group, oxa+andrographolide 1mg/kgBW group, oxa+andrographolide 10mg/kgBW group, oxa+andrographolide 20mg/kgBW group, oxa+resveratrol 10mg/kgBW group, oxa+resveratrol 50 mg/kgBW group, and oxa+resveratrol 100mg/kgBW group. In brief, the study was conducted for 22 days, where mice in the oxaliplatin group were injected with oxaliplatin (3mg/kgBW; i.p) on the first week, then followed by giving solvent on the second week, the mice in andro/resv group were injected with oxaliplatin (3 mg/kgBW;i.p) on the first week, then followed by giving andrographolide or resveratrol (i.p) on the second week.

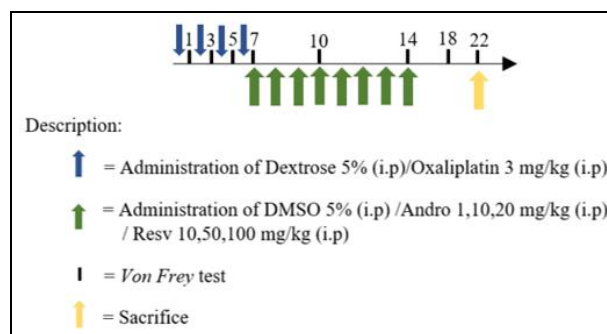


Figure 1. Timeline of study the effect of andrographolide and resveratrol on prepro-orexin and OX1R mRNA relative expression in oxaliplatin induced peripheral neuropathy mice

Pain Behavioral Study: Evaluation of Pain Response Using von Frey Test:

The Von Frey test was performed for the assessment of mechanical allodynia using a series of von Frey filaments. An individual acrylic box with a wire mesh floor was placed 50cm above the bench and utilized for the mice placements. Evaluation is carried out in a quiet room and mice were allowed to habituate to the behavioral testing environment for 15minutes. Mice were evaluated before initiating oxaliplatin administration in order to obtain normal baseline values. The filaments were applied to the mid-plantar surface of hind paw in a series 0.02, 0.04, 0.07, 0.16, 0.4, 0.6, 1.0, 1.4, and 2.0g force. Each filament was delivered to the central plantar area of each hind paw following the "up-

and-down” method, initiated with the 0.6g filament, and tested five times. Withdrawal of mice hind-paw was noted as a positive response. Whenever a positive response occurred, the next weaker von Frey filament was applied. On other hand, a negative response occurred, the next stronger filament was applied. The mean value of five measurements was determined as the withdrawal threshold.

Reverse Transcription Polymerase Chain Reaction

Mice from control group, oxa group, oxa+andrographolide 20mg/kg and oxa+resveratrol 100 mg/kg were sacrificed on day 22 and the hypothalamus tissue extracted. The total RNA was extracted using Life Technology reagents following the manufacturer’s instructions. The RNA was reverse-transcribed into cDNA according to the Promega instructions. The primer sequence of the target genes (PPOrx and OX1R) and the β -actin gene were designed using the Primar Blast software (Table 1). Then, the amplification products were analyzed by 1.5% agarose gel electrophoresis, a gel imaging, and an analysis system.

Table 1. The primers used in RT-PCR

mRNA	Sequence	PCR product (bp)
PPOrx F	‘5 – CAG CCT CTG CCC GAC TGC TGT- 3’	270
PPOrx R	‘5 – TAA AGC GGT GGT AGT TAC GGT CGG AC- 3’	
OX1R F	‘5 – GCT TTT TCA TTG TCA CCT ACC- 3’	284
OX1R R	‘5 – CAG ATA ACA GAG TGC AAA AAC C- 3’	
β -actin F	‘5 - TGT TAC CAA CTG GGA CGA CA - 3’	573
β -actin R	‘5 - AAG GAA GGC TGG AAA AGA GC - 3’	

RESULT:

Effect of Andrographolide and Resveratrol on Peripheral neuropathic Response Using von Frey Test:

The results of the behavioral test before the induction of oxaliplatin as a baseline showed no significant difference in all groups. Then, in oxa group (mice receiving oxaliplatin 3mg/kg/day, i.p), was detect a gradual decrease in hindpaw mechanical withdrawal threshold, compared to the control group until the end of the study. The decrease in oxa group mainly occurred on the last day (Fig. 1a and 1b, $p < 0.05$ vs control group). As it is shown in Figure 1, andrographolide at doses 1, 10, and 20mg/kg/day (Fig. 1a) and resveratrol at doses 10, 50, 100mg/kg/day (Fig. 1b) for 8 days after oxaliplatin injection showed and increase in the withdrawal threshold significantly (Two-way ANOVA, treatment, $F_{4,25} = 3,593$ (Fig. 1a) $F_{4,25} = 4,233$ (Fig. 1b), $p < 0.01$).

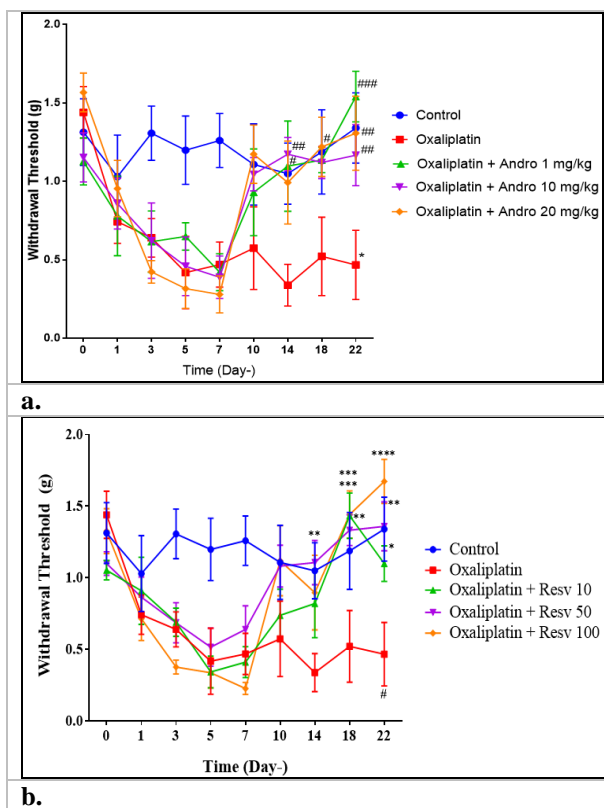
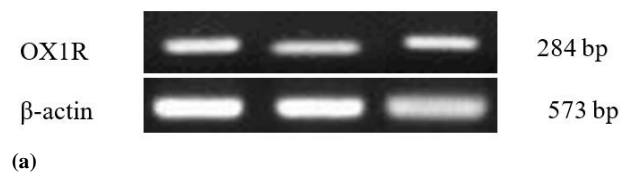


Figure 2. Effect of (a) andrographolide and (b) resveratrol treatment on peripheral neuropathic pain by oxaliplatin induction using a von Frey test. Data are expressed as mean \pm SEM, n = 6. The control group was injected with 5% dextrose solution + 10% DMSO solution ip, the oxa group was injected with oxaliplatin in 5% dextrose solution at a dose of 3 mg/kg/day + 10% tween solution, the oxa + andro group 1, 10, 20 was injected with oxaliplatin in 5% dextrose solution at a dose of 3 mg/kg/day + andrographolide in 5% DMSO solution at a dose of 1, 10, 20 mg/kgBW/day, and the oxa + resv group 10, 50, 100 was injected with oxaliplatin in 5% dextrose solution at a dose of 3 mg/kg/day + resveratrol in 10% tween solution at a dose of 10, 50, 100 mg/kgBW/day. On Figure a, * $p < 0,05$ vs control and # $p < 0.05$, ## $p < 0.005$, ### $p < 0.001$ vs oxa. # $p < 0.05$ vs control. On Figure b, * $p < 0.05$, ** $p < 0.01$, * $p < 0.001$ **** $p < 0.0001$ vs oxa.**

Effect of Andrographolide on the Level of OX1R and PPOrx mRNA relative expression in hypothalamus:

The relative expression of OX1R and PPOrx mRNA in the oxaliplatin group decreased compared to the control group. Meanwhile, the relative mRNA expression of OX1R and PPOrx in the andrographolide 20 mg/kg BW group tended to remain unchanged when compared to the oxaliplatin group (Fig. 2b, *Oneway ANOVA*; $F(2,15) = 0.3036$, n = 6; Fig. 2d, *Oneway ANOVA*; $F(2,15) = 1.406$, n = 6).



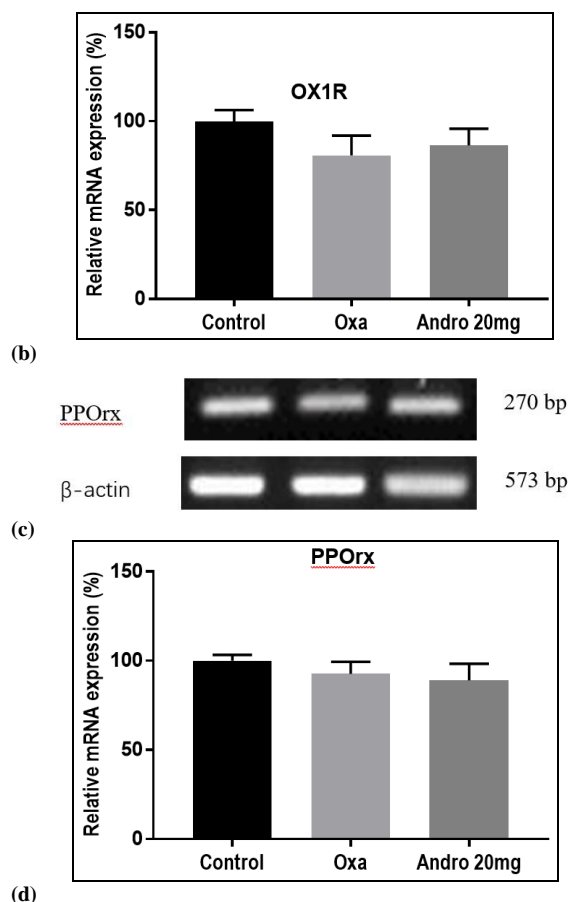


Figure 3. Effect of andrographolide on OX1R and PPOrx mRNA expression in hypothalamus of peripheral neuropathic mice by oxaliplatin induction. (a) representative RT-PCR for the control group (control), oxaliplatin (oxa), and oxaliplatin + andrographolide 20 mg/kg/day (oxa + andro) of OX1R. (b) OX1R semi-quantitative intensity of each band. (c) representative RT-PCR for the control group (control), oxaliplatin (oxa), and oxaliplatin + andrographolide 20 mg/kg/day (oxa + andro) of PPOrx. (d) PPOrx semi-quantitative intensity of each band. Histograms are shown as mean ± SEM, n = 6.

Effect of Resveratrol on the Level of OX1R and PPOrx mRNA relative expression in hypothalamus:

A significant impact of treatment on both, OX1R (One-way ANOVA, treatment, $F_{2,15} = 10.42$, $p < 0.01$) and PPOrx (One-way ANOVA, treatment, $F_{2,15} = 6.059$, $p < 0.05$) mRNA expression in hypothalamus was observed. The result showed a decrease OX1R/ β -actin mRNA relative expression in the oxa group compared to the control group (Fig. 3b, $p < 0.01$ vs control group). No statistically significant differences were observed between oxa group compared to the oxa + resv group. Therefore, there was a significant decrease in the relative expression of OX1R/ β -actin mRNA in the oxa + resv group compared to the control group (Fig. 3b, $p < 0.01$ vs control group). Different result were shown for the PPOrx mRNA relative expression. There was a tendency to decrease the relative expression of PPOrx/ β -actin mRNA in the oxa group compared to

the control group. Resveratrol treatment at dose 100 mg/kg/day, oxa + resv group, was significantly increase the relative expression of of PPOrx/ β -actin mRNA compared to the oxa group (Fig. 3d, $p < 0.05$ vs oxa group).

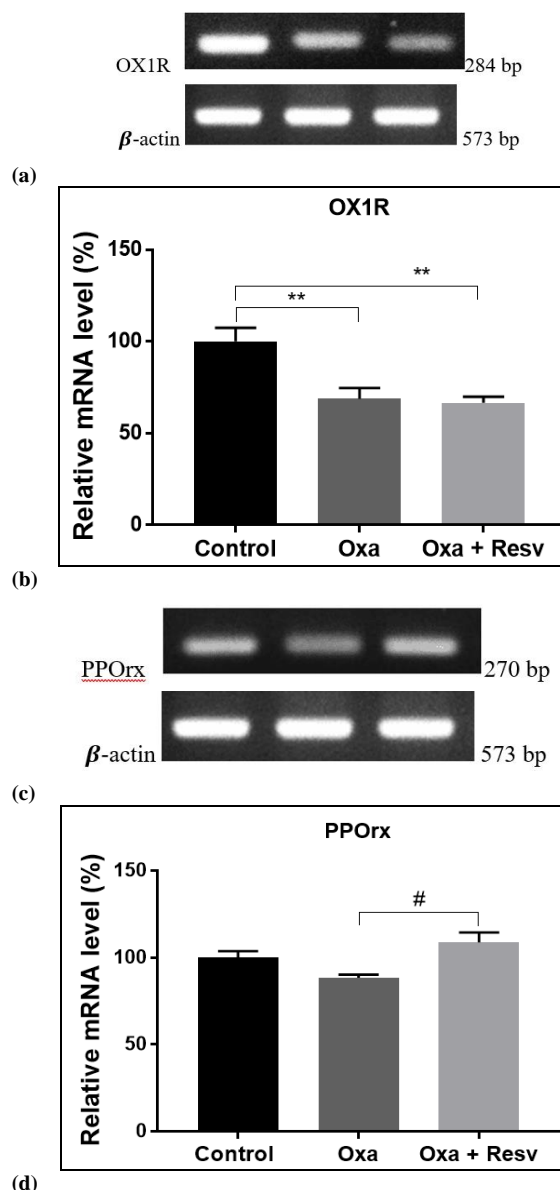


Figure 4. Effect of resveratrol on OX1R and PPOrx mRNA expression in hypothalamus of peripheral neuropathic mice by oxaliplatin induction. Oxaliplatin in 5% dextrose solution (3 mg/kg/day, i.p.) was injected on days 0, 2, 4, and 6. Resveratrol in 10% tween solution (100 mg/kg/day, i.p.) was injected from day to day -7 to the 14. Brain extraction was performed on day 22. (a) representative RT-PCR for the control group (control), oxaliplatin (oxa), and oxaliplatin + resveratrol 100 mg/kg/day (oxa + resv) of OX1R. (b) OX1R semi-quantitative intensity of each band. (c) representative RT-PCR for the control group (control), oxaliplatin (oxa), and oxaliplatin + resveratrol 100 mg/kg/day (oxa + resv) of PPOrx. (d) PPOrx semi-quantitative intensity of each band. Histograms are shown as mean ± SEM, n = 6. ** $p < 0.01$ vs control, # $p < 0.05$ vs oxa.

DISCUSSION:

The purpose of this study was to examine the effect of resveratrol and andrographolide treatment on PPOrx and OX1R mRNA relative expression in the hypothalamus of mice that induced by oxaliplatin. Oxaliplatin induction was given in a dose of 3 mg/kg/day four times with a cumulative dose of 12mg/kg, showing that the withdrawal threshold of the oxa group decreased from the first day after induction until the 22nd day. This result showed that the peripheral neuropathy model is successful and causes mechanical allodynia in mice. These results are consistent with other studies showing that oxaliplatin injection in certain doses and duration induces chronic peripheral neuropathy in a CIPN model^{18,19}. Thus, the oxaliplatin dose and duration used in the present study is the chronic model of oxaliplatin-induced peripheral neuropathy.

The results of the behavioral test showed that the group of mice that received andrographolide treatment at a doses of 1, 10, 20mg/kg/day and resveratrol treatment at doses of 10, 50, and 100mg/kg/day was able to increase the withdrawal threshold and inhibit the effect of oxaliplatin. In the oxaliplatin+andrographolide group, there was an increase in the withdrawal threshold since day 10 for all doses. The withdrawal threshold value also increased until day-22. This result indicates that andrographolide with various doses administration improve the mechanical allodynia and reduce neuropathic pain symptoms. This result was following the study of Sulaiman et al. (2010), andrographolide 10 mg/kg, 25mg/kg, and 50mg/kg can reduce pain in the hot-plate test²². This result may occur through several mechanisms, namely a decrease in an nf- κ B activity wherein the study of Chan et al. (2010), the administration of andrographolide at a dose of 1 mg/kg can reduce the effect of Nf- κ B activation²³. Decreased Nf- κ B activation can decrease microglial activation²¹. Another mechanism of andrographolide in reducing pain is through reduced production of ROS, TNF- and NO. Decreased ROS production may occur because andrographolide can induce HO-1 protein expression through the activity on the Nrf2/ARE pathway²⁰. Increased HO-1 expression and Nrf2 activation can result in neuroprotection against oxidative damage and cell death^{24,25}. Based on the results of these behavioral tests, it is indicated that andrographolide reduces oxaliplatin-induced neuropathic pain.

In the oxaliplatin+resveratrol group, on the 10th day, the withdrawal threshold began to increase in all groups oxa + resv. As a whole, the administration of resveratrol 10, 50, and 100mg/kg/day was able to improve mechanical allodynia in mice. The behavioral test showed that the resveratrol administration significantly increase the withdrawal threshold until the end of the study. These

results show that resveratrol not only has an analgesic effect but also showed an effect that was able to improve the condition of mechanical allodynia due to oxaliplatin induction. These results are supported by other studies which state that resveratrol is the potential to reduce allodynia and has an effect for several days after the last administration^{9,26}. However, in this study, it was shown that the higher the dose of resveratrol didn't show a consistent increase in the withdrawal threshold in each test so that increasing the dose did not affect the increase in the withdrawal threshold. These results are in line with the research of Zhao et al. (2014) who revealed the administration of resveratrol doses of 3, 10, and 30 mg/kg p.o. for 21 days in CCI model animals did not show a dose-dependent increase in the withdrawal threshold²⁷.

Administration of resveratrol doses of 10, 50, and 100 mg/kg/day i.p. for the treatment of CIPN in the present study showed a non-linear dose-response result. Resveratrol doses of 10 and 50mg/kg/day showed better results than doses of 100mg/kg/day. The administration of resveratrol 10 and 50mg/kg/day resulted in a linear increase in the withdrawal threshold from day to day. However, the administration of resveratrol 100 mg/kg/day resulted in two peaks, on the 7th and 22nd days. The profile showed that the use of a dose of 100 mg/kg/day or higher did not provide effective results, so it is not recommended for use in the next study. Some studies say that resveratrol is dose-dependent. On the other hand, there are also studies showing the results that low-dose resveratrol has more effect on clinical improvement than higher-dose resveratrol²⁸. Based on the results of previous studies, it was shown that low-dose resveratrol had more pharmacological effects. Thus, low-dose resveratrol may be more effective, including for the treatment of peripheral neuropathy.

At the end of the study, mice were sacrificed and the hypothalamic was extract. Several studies have suggested that the orexinergic system contributes to nociceptive modulation^{29,30}. Activation of orexin neurons in the presence of inflammation may contribute to the activation of descending pain inhibitory pathways involving PAG³². In descending pain pathway inhibition, PAG neurons receive input from several areas of the brain, including the hypothalamus. PAG neurons project their axons on the LC and RVM. Neurons located in the LC and RVM directly project axons to the spinal dorsal horn, where nociceptive input was processed first³¹. In the spinal cord, DRG neurons are primary afferent neurons that transmit peripheral stimuli to areas that process pain. Morphological results showed the presence of orexin-A and OX1R distributed in DRG neurons. Orexin-A induces excitability and elevation of intracellular calcium concentrations in DRG neurons

isolated from mice, which is dependent on spinal OX1R activation. Based on these findings, the projection of the orexin system from the hypothalamus to the DRG allows orexin modulation pathways for the transmission of pain stimuli including peripheral neuropathic pain³³.

Molecular study used four groups, control group, oxa group, oxa+andro 20 group and oxa + resv 100 group. It showed that the administration of oxaliplatin was significantly reduce the expression of OX1R mRNA in the hypothalamus compared to the control group. Then the administration of andrographolide 20 mg/kg/day did not show any effect on OX1R and PPOrx mRNA relative expression. However, the administration of resveratrol at 100mg/kg/day after oxaliplatin induction did not show any effect on OX1R mRNA expression. These results are supported by several other studies which have shown that inflammation reduces OX1R mRNA expression in the central and the periphery^{34,35}. Meanwhile, the administration of resveratrol therapy at 100mg/kg/day and andrographolide 20mg/kg/day was not able to increase OX1R mRNA expression in the hypothalamus, possibly because OX1R activation to antinociceptive effects was not primarily in the hypothalamus. Unaltered expression of OX1R and Prepro-orexin mRNA in the andrographolide group may occur because the dose was not large enough to affect the orexinergic system in the hypothalamus. In the study of Abu-Ghefreh et al. (2009), andrographolide can still be given up to a dose of 30mg/kg and does not cause toxic effects for experimental animals, and used as anti-inflammation on the lungs³⁶. However, in this study, andrographolide 30mg/kg was not used because based on the research of Chan et al. (2010), administration of andrographolide 0.1mg/kg and 1mg/kg intraperitoneally has been able to affect the central nervous system and decrease inflammation in damaged brain tissue²³. Therefore, it was assumed that a dose of 20mg/kg may be able to affect the central nervous system, including the brain. In addition, in this study, the higher dose of andrographolide were not used since it may cause an increased risk of side effects, such as headache, fatigue, rash, nausea, diarrhea, pruritus, and allergic reactions, when the dose increased³⁷.

On other hand, PPOrx mRNA showed that oxaliplatin administration tended to decrease PPOrx mRNA expression in the hypothalamus compared to the control group. Administration of resveratrol 100mg/kg/day after oxaliplatin induction increases PPOrx mRNA expression compared to the oxa group. The PPOrx mRNA expression in the oxa + resv group was not different from the PPOrx mRNA expression in the control group. This indicated that the administration of resveratrol was able to inhibit the decrease in PPOrx mRNA expression by oxaliplatin and increase to the equal as the healthy

state. This result is in accordance with the behavioral test, on day 22, the oxa + resv 100group showed a significant increase in the withdrawal threshold compared to the oxa group.

The evidence showed that the hypothalamus, the central site of the orexinergic system, is associated with nociceptive processes. Administration of oxaliplatin causes a series of multifactorial mechanisms in the pathogenesis of peripheral neuropathy, where pain stimuli from the periphery are transmitted through the spinal cord central nervous system to the pain center in the brain. It is known in previous studies that the absence of orexin, both OX1R, and PPOrx, cause hyperalgesia after peripheral inflammation^{32,34,35}. Different studies have shown that exogenous Orexin A administration reduces mechanical allodynia in CIPN model animals and the orexinergic system reduces pro-inflammatory cytokines in microglia. Administration of exogenous Orexin A activates OX1R in the ventrolateral PAG nerve which then activates descending pain modulation and reduces nociceptive responses^{17,30}. This study showed that in chronic inflammatory conditions such as peripheral neuropathy, there was a decrease in the expression of OX1R and PPOrx mRNA in the hypothalamus of mice. Administration of andrographolide did not modulate the orexinergic system. However, the administration of resveratrol was able to modulate PPOrx. Increased expression of PPOrx mRNA causes an antinociceptive effect which is characterized by an increase in the withdrawal threshold and improvement in peripheral neuropathy. However, OX1R in the hypothalamus is not sufficiently activated so that there is no increase in OX1R mRNA expression. The mechanism of action of andrographolide in reducing pain is not through the orexinergic pathway. However, andrographolide may act via other pathways, such as Nrf2/HO-1 pathway. On the other hand, the antinociceptive effect of resveratrol is possibly by increasing the expression of PPOrx mRNA in the hypothalamus and activating descending pain modulation. The exact mechanism of these antioxidants in increasing the mechanical withdrawal threshold in CIPN-induced mice should be further verified.

CONCLUSION:

The results of this study reveal that resveratrol increased the mechanical withdrawal threshold and increased relative expression level of PPOrx mRNA. On the other hand, andrographolide increased the mechanical threshold but did not change in the relative expression of OX1R and PPOrx mRNA significantly.

CONFLICT OF INTEREST:

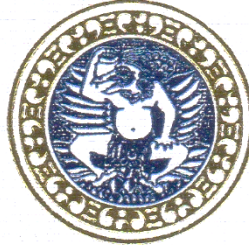
The authors have no conflicts of interest regarding this investigation.

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**KOMISI ETIK PENELITIAN
FAKULTAS KEDOKTERAN HEWAN UNIVERSITAS AIRLANGGA
*Animal Care and Use Committee (ACUC)***

**KETERANGAN KELAIKAN ETIK
“ ETHICAL CLEARENCE ”**

No : 2.KE.052.03.2021

**KOMISI ETIK PENELITIAN (ANIMAL CARE AND USE COMMITTEE)
FAKULTAS KEDOKTERAN HEWAN UNIVERSITAS AIRLANGGA SURABAYA,
TELAH MEMPELAJARI SECARA SEKSAMA RANCANGAN PENELITIAN YANG
DIUSULKAN, MAKA DENGAN INI MENYATAKAN BAHWA :**

PENELITIAN BERJUDUL : Pengaruh Andrographolide dan Resveratrol terhadap
Ekspresi mRNA OX1R dan Prepro-Orexin pada Hipotalamus
Mencit dengan Neuropati Perifer yang Diinduksi Oxaliplatin

PENELITI UTAMA : Chrismawan Ardianto

**UNIT/LEMBAGA/TEMPAT
PENELITIAN** : Program Studi Pendidikan Apoteker
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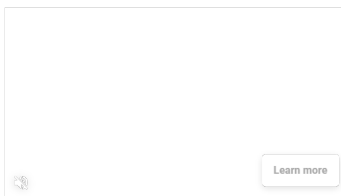
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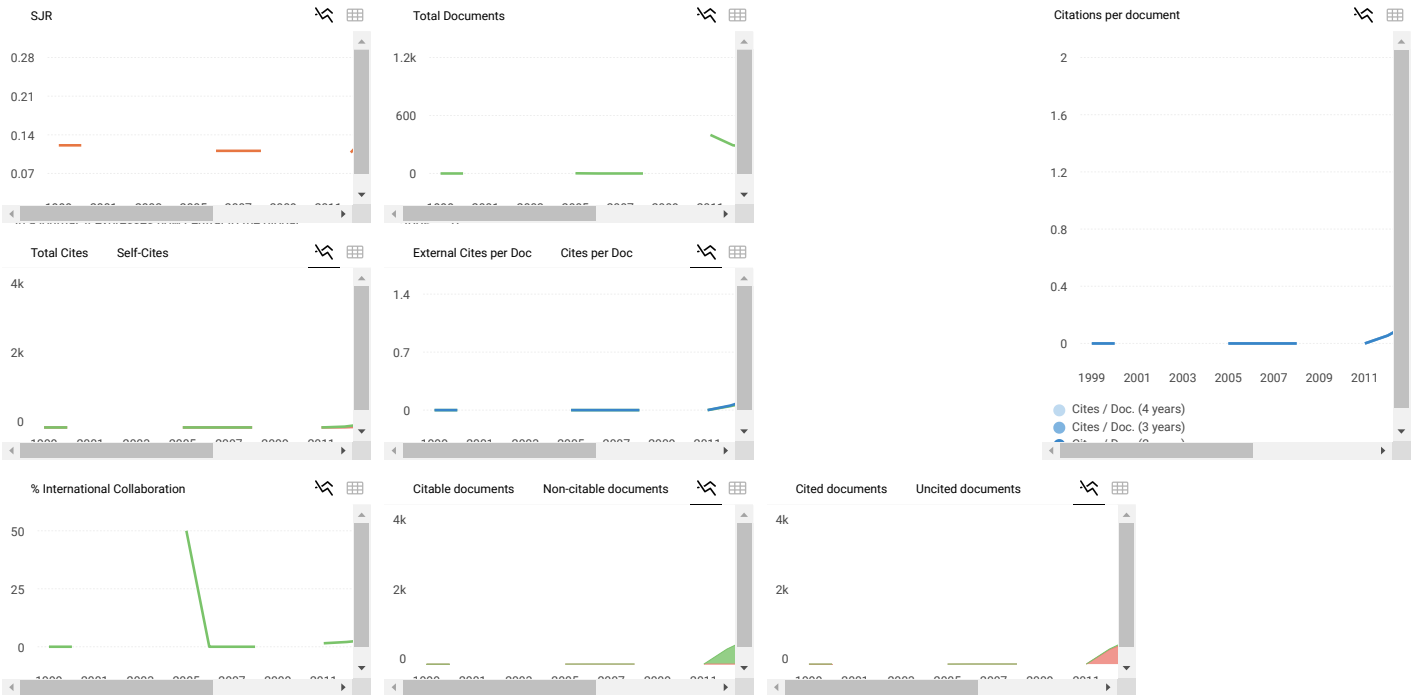
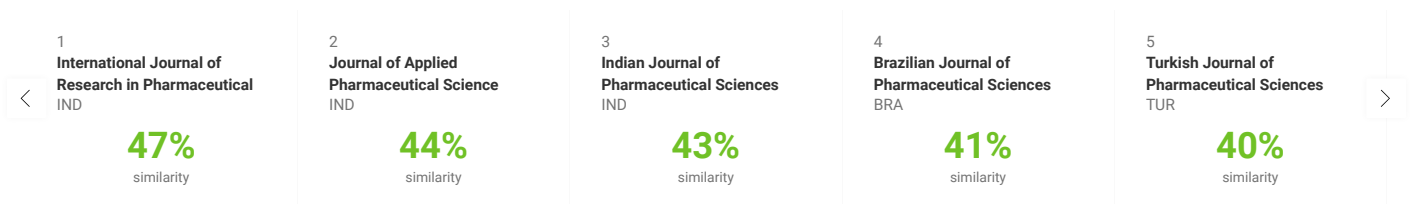
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