



Noor A. Hussein

Postdoctoral Scholar, Medicine

Bio

BIO

I am a pharmacological scientist with over 10 years of extensive experience in cancer Biology , and neuroimmunology research. My work spans cancer experimental molecular therapeutics using In vitro and In vivo techniques and cellular immunology. My current work aims to increase the understanding of pediatric acute onset neuropsychiatric disorder (PANS) disease molecular mechanism through studying the immunophenotypic changes in the peripheral blood patient with PANS. I hope that this work will pave the way to novel treatment strategies.

INSTITUTE AFFILIATIONS

- Member, Maternal & Child Health Research Institute (MCHRI)

HONORS AND AWARDS

- Scholar in training award, American association for cancer research (March 2020)
- Best poster presentation award, Emerging health Care and Advancement in Toxicology international conference (September 1st 2016)
- Michael A. Jenike Young Investigator Award, International OCD foundation (September 2023)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Review Editor for Experimental Pharmacology and Drug Discovery, Frontiers in Pharmacology Journal (2021 - present)
- Associate member, American association for cancer research (2017 - present)

PROFESSIONAL EDUCATION

- Doctor of Philosophy, University of Toledo (2021)
- Master of Science, University of Toledo (2017)
- Bachelor of Science, University Of Al-Mustansiriyah (2010)

STANFORD ADVISORS

- Everett Meyer, Postdoctoral Faculty Sponsor

LINKS

- Stanford PANS basic Science research team: <https://med.stanford.edu/pans/our-team/research-team.html>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

My current work aims to increase the understanding of pediatric acute onset neuropsychiatric disorder (PANS) disease mechanism and to improve the treatment options. It focuses on studying the alteration of regulatory T cells (Tregs), which are key inhibitors of autoimmunity and main regulator of inflammation, in PANS.

Publications

PUBLICATIONS

- **Using mass cytometry to probe the STAT signaling landscape in circulating immune cells in Rheumatoid Arthritis uncovers signaling dysregulation and correlation with disease activity.** *Frontiers in medicine*
Macaubas, C., Bayram, B., Hussein, N., Jager, A., Davis, K. L., Graf, J., Nakamura, M., Zisman, D., Mellins, E. D.
2025; 12: 1622537
- **Sex-associated and disease state-dependent monocyte polarization and CNS-trafficking phenotypes in pediatric acute-onset neuropsychiatric syndrome (PANS).** *Journal of neuroinflammation*
Rahman, S. S., Hussein, N., Galfrè, S. G., Gaertner, F., Macaubas, C., Chan, A., Columbo, L., Gao, J., Galehdari, S., Bayram, B., Ma, M., Manko, C., Miles, et al
2025; 22 (1): 273
- **Revisiting strategies to target ABC transporter-mediated drug resistance in CNS cancer.** *Cancer biology & medicine*
Amawi, H., Hammad, A. M., Hall, F. S., Hussein, N., Rataan, A. O., Mrayyan, A., Al-Kofahi, T., Hmedat, A., Ashby, C. R., Tiwari, A. K.
2025
- **Mitochondria as Regulators of Nonapoptotic Cell Death in Cancer.** *MedComm*
Malla, S., Neupane, R., Sood, S., Hussein, N., Abou-Dahech, M., Terrero, D., Ashby, C. R., Babu, R. J., Tiwari, A. K.
2025; 6 (8): e70244
- **A SARS-CoV-2 vaccine on an NIR-II/SWIR emitting nanoparticle platform.** *Science advances*
Jiang, Y., Sanyal, M., Hussein, N. A., Baghdasaryan, A., Zhang, M., Wang, F., Ren, F., Li, J., Zhu, G., Meng, Y., Adamska, J. Z., Mellins, E., Dai, et al
2025; 11 (6): eadp5539
- **Safety Results from a Phase 1 Double-blind Randomized Clinical Trial of Allogeneic Mesenchymal Stem Cells in Early RA**
Singer, N., Breitman, M., Haghiaç, M., Gordesky, L., Reese, J., Lewis, S., Barnboym, E., Hussein, N., Lasalvia, S., Mellins, E., Bonfield, T., Anthony, D., Caplan, et al
WILEY.2023: 2575-2576
- **A Novel Dialkylamino-Functionalized Chalcone, DML6, Inhibits Cervical Cancer Cell Proliferation, In Vitro, via Induction of Oxidative Stress, Intrinsic Apoptosis and Mitotic Catastrophe.** *Molecules (Basel, Switzerland)*
Len, J. M., Hussein, N., Malla, S., Mcintosh, K., Patidar, R., Elangovan, M., Chandrabose, K., Moorthy, N. S., Pandey, M., Raman, D., Trivedi, P., Tiwari, A. K.
2021; 26 (14)
- **The role of endolysosomal trafficking in anticancer drug resistance.** *Drug resistance updates : reviews and commentaries in antimicrobial and anticancer chemotherapy*
Hussein, N. A., Malla, S., Pasternak, M. A., Terrero, D., Brown, N. G., Ashby, C. R., Assaraf, Y. G., Chen, Z. S., Tiwari, A. K.
2021; 57: 100769
- **Novel Curcumin-Resveratrol Solid Nanoparticles Synergistically Inhibit Proliferation of Melanoma Cells.** *Pharmaceutical research*
Palliyage, G. H., Hussein, N., Mimitz, M., Weeder, C., Alnasser, M. H., Singh, S., Ekpenyong, A., Tiwari, A. K., Chauhan, H.
2021; 38 (5): 851-871
- **Endolysosomal trafficking defects leads to caspase independent cell death in colon cancer**
Hussein, N., Pasternak, M., Kumari, S., Awthe, Z., Gunning, W., Trippier, P. C., Tiwari, A.
AMER ASSOC CANCER RESEARCH.2020

- **Novel Chrysin-De-Allyl PAC-1 Hybrid Analogues as Anticancer Compounds: Design, Synthesis, and Biological Evaluation.** *Molecules (Basel, Switzerland)*
Al-Oudat, B. A., Ramapuram, H., Malla, S., Audat, S. A., Hussein, N., Len, J. M., Kumari, S., Bedi, M. F., Ashby, C. R., Tiwari, A. K.
2020; 25 (13)
- **Development of non-apoptotic, caspase-independent cell death inducers against cancer cells**
Pasternak, M. A., Hussein, N., Chandrabose, K., Erhardt, P. W., Tiwari, A. K.
AMER ASSOC CANCER RESEARCH.2019
- **Novel Thienopyrimidine Derivative, RP-010, Induces β -Catenin Fragmentation and Is Efficacious against Prostate Cancer Cells.** *Cancers*
Amawi, H., Hussein, N., Boddu, S. H., Karthikeyan, C., Williams, F. E., Ashby, C. R., Raman, D., Trivedi, P., Tiwari, A. K.
2019; 11 (5)
- **Cariprazine, A Dopamine D₂/D₃ Receptor Partial Agonist, Modulates ABCG2-Mediated Multidrug Resistance in Cancer** *CANCERS*
Hussein, N., Ashby, C. R., Amawi, H., Nyinawabera, A., Vij, A., Khare, V. M., Karthikeyan, C., Tiwari, A. K.
2018; 10 (9)
- **Efficient syntheses and anti-cancer activity of xenortides A-D including ent/epi-stereoisomers.** *Organic & biomolecular chemistry*
Esmati, N., Maddirala, A. R., Hussein, N., Amawi, H., Tiwari, A. K., Andreana, P. R.
2018; 16 (29): 5332-5342
- **IH-Pyrazolo[3,4-b]quinolin-3-amine derivatives inhibit growth of colon cancer cells via apoptosis and sub G1 cell cycle arrest.** *Bioorganic & medicinal chemistry letters*
Karthikeyan, C., Amawi, H., Viana, A. G., Sanglard, L., Hussein, N., Saddler, M., Ashby, C. R., Moorthy, N. S., Trivedi, P., Tiwari, A. K.
2018; 28 (13): 2244-2249
- **Bax/Tubulin/Epithelial-Mesenchymal Pathways Determine the Efficacy of Silybin Analog HM015k in Colorectal Cancer Cell Growth and Metastasis.** *Frontiers in pharmacology*
Amawi, H., Hussein, N. A., Ashby, C. R., Alnafisah, R., Sanglard, L. M., Manivannan, E., Karthikeyan, C., Trivedi, P., Eisenmann, K. M., Robey, R. W., Tiwari, A. K.
2018; 9: 520
- **Thienopyrimidine derivatives exert their anticancer efficacy via apoptosis induction, oxidative stress and mitotic catastrophe.** *European journal of medicinal chemistry*
Amawi, H., Karthikeyan, C., Pathak, R., Hussein, N., Christman, R., Robey, R., Ashby, C. R., Trivedi, P., Malhotra, A., Tiwari, A. K.
2017; 138: 1053-1065
- **HM015k, a Novel Silybin Derivative, Multi-Targets Metastatic Ovarian Cancer Cells and Is Safe in Zebrafish Toxicity Studies.** *Frontiers in pharmacology*
Amawi, H., Hussein, N. A., Karthikeyan, C., Manivannan, E., Wisner, A., Williams, F. E., Samuel, T., Trivedi, P., Ashby, C. R., Tiwari, A. K.
2017; 8: 498
- **Novel silybin analogues target ovarian cancer EMT-Wnt/ β -catenin resistance pathways**
Amawi, H. A., Hussein, N., Fetcenkoa, A., Alnafisah, R., Chandrabose, K., Manivannan, E., Trivedi, P., Tiwari, A. K.
AMER ASSOC CANCER RESEARCH.2017
- **The dopamine (DA) D₃ receptor antagonists (PG01037, NGB2904, SB-277011A, and U99194) significantly attenuate ABCG2-mediated multidrug resistance**
Hussein, N., Amawi, H., Ashby, C. R., Chandrabose, K., Mittal, R., Christman, R., Trivedi, P., Tiwari, A.
AMER ASSOC CANCER RESEARCH.2017
- **The dopamine D₃ receptor antagonists PG01037, NGB2904, SB277011A, and U99194 reverse ABCG2 transporter-mediated drug resistance in cancer cell lines.** *Cancer letters*
Hussein, N., Amawi, H., Karthikeyan, C., Hall, F. S., Mittal, R., Trivedi, P., Ashby, C. R., Tiwari, A. K.
2017; 396: 167-180
- **Design and discovery of silybin analogues as antiproliferative compounds using a ring disjunctive - Based, natural product lead optimization approach.** *European journal of medicinal chemistry*
Manivannan, E., Amawi, H., Hussein, N., Karthikeyan, C., Fetcenko, A., Narayana Moorthy, N. S., Trivedi, P., Tiwari, A. K.
2017; 133: 365-378

- **A reappraisal of the 6-O-desmethylnaproxen-sulfating activity of the human cytosolic sulfotransferases.** *Canadian journal of physiology and pharmacology*
Alherz, F. A., Almarghalani, D. A., Hussein, N. A., Kurogi, K., Liu, M. C.
2017; 95 (6): 647-651