

Curriculum Vitae

15/10/2023

Personal Information

Name: Ahmad Salhab

Address: Beit-Safafa, Jerusalem

Moile: +972 52 7482117

E-mail: Ahmad.salhab@mail.huji.ac.il

Social Status: Married +2

Place of Birth: Jerusalem , 15 June 1991



Current position

- ✓ **2013-Now:** Senior Researcher at Liver Institute, Hadassah Hebrew University Hospital, Ein Kerem-Jerusalem.
- ✓ **2021-Now:** Lecturer (Biology, Cell biology, Molecular biology, Molecular biology lab and biochemistry lab) & Researcher at Faculty of Medicine and Health Sciences, An-Najah National University.

Education

- ✓ **2023-Now:** Postdoctoral fellowships in Biochemistry and Molecular biology. Faculty of Medicine, Hebrew University of Jerusalem. Ein Kerem Campus.
- ✓ **2022-2023:** Bachelor degrees in Education (B.Ed.) and teacher certificates, David Yellin College of Education.
- ✓ **2018-2023:** Ph.D in Biomedical Sciences; Cellular Biology, immunology, and Cancer Research. Faculty of Medicine, Hebrew University of Jerusalem. Ein Kerem Campus.
- ✓ **2014-2017:** M.Sc in Biomedical Sciences; Biochemistry, Metabolism, and Endocrinology, Faculty of medicine, Hebrew University of Jerusalem. Ein Kerem Campus.
- ✓ **2010-2013:** B.Sc in Biotechnology, Hadassah Academic College, Jerusalem.
- ✓ **2008-2009:** Secondary Certificate (Tawjihi) scientific stream at “Al-Aqsa Secondary School”, Jerusalem.

Courses

- ✓ **2023:** CPR and first aid - Magen David Adom (30 hours).
- ✓ **2015:** The Basic Course for the Use of ISO/IEC 17025 by the Israel Laboratory Accreditation Authority, (ILAC).
- ✓ **2013:** The Basic Course for the Use of Animals in Research, Hebrew University-Jerusalem.
- ✓ **2013:** Course of "International GCP" (Good Clinical Practice), Hadassah Medical Center.

Experiences

- Research Coordination - basic science and clinical studies.
- Research strategies and work plans Designing.
- Write and review scientific papers, articles and grants.
- Write, evaluate and interpret proposals and reports.
- Guiding undergraduate students - Medical doctor and biomedical science students.

Methods and lab Skills

- Experience in dealing with animal mice models.
- Cell cultures.
- Western Blot analysis.
- Quantitative Real Time PCR.
- Fluorescent Activated Cell Sorting (FACS) & Flow cytometry reading and analysis.
- Gene silencing through Crisper, shRNA and siRNA techniques.
- Confocal Microscopy, IF Staining.
- Immunohistochemistry (IHC), H&E Staining, Tricome chrome, Sirius Red and Oil red staining.
- ELISA.
- DNA, RNA and Protein extraction.
- Immunoprecipitation (IP).
- Cells purification and isolation from human and mice organs.
- RNA single seq.
- Plasmids transfection.

Membership

- Member of the European Association Studies of Liver (EASL).
- Member of the American Association Studies of Liver Disease (AASLD).
- Member of the Israeli Association for Liver Research.

Publications

1. Amer J, **Salhab A**, Snobar H. The immune and metabolic treatment approach of testosterone on mice model of liver injury. Front. Pharmacol. 2023; 14:1180262. (IF=5.98)
2. Dwikat M, Amer J, Jaradat N, **Salhab A**, Rahim AA, Qadi M, Aref A, Ghanim M, Murad H, Modallal A and Shalabni K. Arum palaestinum delays hepatocellular carcinoma proliferation through the PI3K-AKT-mTOR signaling pathway and exhibits anticoagulant effects with antimicrobial properties. Front. Pharmacol. 2023; 14:1180262. (IF=5.98)
3. Greenman R, Segal-Salto M, Barashi N, Hay O, Katav A, Levi O, Vaknin I, Aricha R, Aharoni S, Snir T, Mishalian I, Olam D, Amer J, **Salhab A**, Safadi R, Maor Y, Trivedi P, Weston CJ, Saffioti F, Hall A, Pinzani M, Thorburn D, Peled A, Mor A. CCL24 regulates biliary inflammation and fibrosis in primary sclerosing cholangitis. JCI Insight. 2023 Jun 22;8(12):e162270. (IF=19.47)
4. Amer J, **Salhab A**, Jaradat N, Abdallah S, Aburas H, Hattab S, Ghanim M, Alqub M. Gundelia tournefortii inhibits hepatocellular carcinoma progression by lowering gene expression of the cell cycle and hepatocyte proliferation in immunodeficient mice. Biomed Pharmacother. 2022 Oct 18;156:113885. (IF=7.41)
5. Ghanim M*, Amer J*, **Salhab A**, Jaradat N. Ecballium elaterium improved stimulatory effects of tissue-resident NK cells and ameliorated liver fibrosis in a thioacetamide mice model. Biomed Pharmacother. 2022 Jun;150:112942. (IF=7.41)

6. **Salhab A***, Amer J*, Lu Y, Safadi R. Sodium+/taurocholate cotransporting polypeptide as target therapy for liver fibrosis. Gut. 2021 Jul 15;gutjnl-2020-323345. (IF=31.17)

7. **Salhab A**, Amer J, Yinying L, Safadi R. 25(OH) D3 alleviate liver NK cytotoxicity in acute but not in chronic fibrosis model of BALB/c mice due to modulations in vitamin D receptor. BMC Gastroenterol. 2020 Apr 10;20(1):102. (IF=2.73)

8. Chai C, Cox B, Yaish D, Gross D, Rosenberg N, Amblard F, Shemuelian Z, Gefen M, Korach A, Tirosh O, Lanton T, Link H, Tam J, Permyakova A, Ozhan G, Citrin J, Liao H, Tannous M, Hahn M, Axelrod J, Arretxe E, Alonso C, Martinez-Arranz I, Betés PO, Safadi R, **Salhab A**, Amer J, Tber Z, Mengshetti S, Giladi H, Schinazi RF, Galun E. Agonist of RORA Attenuates Nonalcoholic Fatty Liver Progression in Mice via Up-regulation of MicroRNA 122. Gastroenterology. 2020 Sep;159(3):999-1014.e9. (IF=22.68)

9. Fishman P, Cohen S, Itzhak I, Amer J, **Salhab A**, Barer F, Safadi R. The A3 adenosine receptor agonist, namodenoson, ameliorates non-alcoholic steatohepatitis in mice. Int J Mol Med. 2019 Dec;44(6):2256-2264. (IF=4.1)

10. Johnny Amer, **Ahmad Salhab**, Sarit Doron, Gilles Morali, Rifaat Safadi. A novel flow-cytometric tool for fibrosis-scoring through hepatic-stellate-cells differentiation to 4 sub-populations. Cytometry A. 2018 Apr;93(4):427-435. (IF=4.35)

11. Johnny Amer, **Ahmad Salhab**, Mazen Nouredin, Sarit Doron, Lina abu tair, Rami Ghantous, Mahmud Mahamid, Rifaat Safadi. Insulin signaling as a potential NK cell checkpoint in fatty liver disease. Hepatol Commun. 2018 Feb 14;2(3):285-298. (IF=5.07)

12. Muhanna N, Amer J, **Salhab A**, Sichel JY, Safadi R. The Immune Interplay between Thyroid Papillary Carcinoma and Hepatic Fibrosis. Plos One. 2015. 7; 10(7):e0132463. (IF=3.24)

Abstracts and oral presentations involved

1. **Ahmad Salhab**, Johnny Amer & Rifaat Safadi. NTCP upregulation in NK cells regulate STAT signaling pathways and mediate NK exhaustion and impairment in advanced liver fibrosis. Oral presentation, The European Association for the Study of the Liver (EASL), prague, 2023.
2. **Ahmad Salhab**, Johnny Amer & Rifaat Safadi. Tissue resident NK^{NTCP-} transplanted to immunosuppressed mice exhibiting liver fibrosis and fed with high fat diet (HFD) alleviate liver fibrosis. ePoster, The European Association for the Study of the Liver (EASL), Vienna, 2023.
3. Johnny Amer, **Ahmad Salhab** & Rifaat Safadi. Novel Natural killer cell immunotherapy through synthesized Neuroligin-4 peptides improved liver fibrosis. ePoster, The European Association for the Study of the Liver (EASL), Vienna, 2023.
4. **Ahmad Salhab**, Johnny Amer & Rifaat Safadi. Antagonizing sodium taurocholate co-transporting polypeptide (NTCP) on NK cells from NALFD patients elevate their activity and mediate activated hepatic stellate cells killing. ePoster, The European Association for the Study of the Liver (EASL), Dublin, 2022.
5. Johnny Amer, **Ahmad Salhab** & Rifaat Safadi. Tissue resident NK^{NTCP-} transplanted to immunosuppressed mice exhibiting liver fibrosis and fed with high fat diet (HFD) alleviate intestinal fibrosis and lipid profile. ePoster, The European Association for the Study of the Liver (EASL), Dublin, 2022.
6. Johnny Amer, **Ahmad Salhab** & Rifaat Safadi. Oleic acid-induced acute lung injury in ob/ob mice exacerbate bile acid uptake and liver injury that was reversed by antagonizing their entry. ePoster, The European Association for the Study of the Liver (EASL), Digital, 2020.
7. Johnny Amer, **Ahmad Salhab** & Rifaat Safadi. Johnny Amer, Ahmad Salhab & Rifaat Safadi. CCl₄-induced acute liver injury in C57/BL mice model showed elevated expressions of Na⁺ taurocholate cotransporting polypeptide on intestinal stellate cells. ePoster, AASLD's 71st Annual Meeting in Washington DC, October, 2020. ePoster, AASLD's 71st Annual Meeting in Washington DC, Digital, 2020.

8. **Ahmad Salhab**, Johnny Amer & Rifaat Safadi. Sodium taurocholate co-transporting polypeptide (NTCP) as novel checkpoint in NK cells activity in Liver fibrosis. ePoster, The European Association for the Study of the Liver (EASL), Seville, Sep 2019.
9. **Ahmad Salhab**, Johnny Amer, Rifaat Safadi. Obeticholic acid decreased alpha-Feto-protein levels in HCC through Farnesoid X receptor. The European Association for the Study of the Liver (EASL), Lisbon, Feb 2019.
10. Johnny Amer, **Ahmad Salhab**, Rifaat Safadi. Liver NK cells from NLG4^{-/-} mice inhibit progressions of hepatocellular carcinoma of C57BL/6 mice model through decrease in p53 and Akt expressions. The European Association for the Study of the Liver (EASL), Lisbon, Feb 2019.
11. **Ahmad Salhab**, Johnny Amer & Rifaat Safadi. Epigallocatechin 3-Gallate ameliorates lipid and liver injury profile through activation of NK cells in mice model of cholestatic liver fibrosis. ePoster, The European Association for the Study of the Liver (EASL), Leuven, June 2018.
12. **Ahmad Salhab**, Johnny Amer & Rifaat Safadi. Sodium taurocholate co-transporting polypeptide (NTCP) as novel checkpoint in NK cells activity in Liver fibrosis. ePoster, The European Association for the Study of the Liver (EASL), Leuven, June 2018.
13. **Ahmad Salhab**, Johnny Amer & Rifaat Safadi. Sodium taurocholate co-transporting polypeptide (NTCP) as novel checkpoint in NK cells activity in Liver fibrosis. ePoster, The European Association for the Study of the Liver (EASL), Paris, April 2018.
14. **Ahmad Salhab**, Johnny Amer & Rifaat Safadi. Elevated expressions of Sodium taurocholate co-transporting polypeptide (NTCP) on NK cells impaired their function and contribute to liver fibrosis. ePoster, The European Association for the Study of the Liver (EASL), Paris, April 2018.
15. Johnny Amer, **Ahmad Salhab** & Rifaat Safadi. Reduced PI3K pathway in NK cells of F4-NAFLD patients inhibited mTOR expressions and was correlated with their impaired function. ePoster, The European Association for the Study of the Liver (EASL), Paris, April 2018.

16. Johnny Amer, **Ahmad Salhab** & Rifaat Safadi. 25(OH) D3 alleviate liver NK cytotoxicity in early but not in late fibrosis model of Balb/c mice due to modulations in vitamin D receptor. ePoster, The European Association for the Study of the Liver (EASL), Paris, April 2018.
17. Johnny Amer, **Ahmad Salhab**& Rifaat Safadi. A novel hepatic stellate cells ligand β -neurexin in NAFLD liver biopsy as a potential NK cell therapy . ePoster at The Liver Meeting®, AASLD's 68th Annual Meeting in Washington DC, October, 2017.
18. Johnny Amer, **Ahmad Salhab**& Rifaat Safadi. Insulin signaling as a potential NK cell checkpoint in Fatty Liver Disease . ePoster at The Liver Meeting®, AASLD's 68th Annual Meeting in Washington DC, October, 2017.
19. Rifaat Safadi, **Ahmad Salhab** & Johnny Amer. Namodenoson (CF102) Prevents Liver Fibrosis in the CCL4 Model . Oral presentationat The Liver Meeting®, AASLD's 68th Annual Meeting in Washington DC, October, 2017.
20. Johnny Amer, **Ahmad Salhab**, Harbi Khalielch, Rifaat Safadi. Neuroligin4 over expression on NK cells cause their impairment in patients with cirrhosis and HCC. ePoster, the European Association for the Study of the Liver (EASL), Amesterdam, April 2017.
21. Johnny Amer, **Ahmad Salhab**, Rajiv Jalan, Rifaat Safadi. Ammonia elevates B-neurexin in hepatic stellate cells to escape NK cells activity. **Oral presentation**, The European Association for the Study of the Liver (EASL), Amesterdam, April 2017.
22. **Ahmad Salhab**, Johnny Amer, Rifaat Safadi. Liver NK cells from NLG4-/- mice inhibit progressions of hepatocellular carcinoma of C57BL/6 mice model through decrease in p53 and Akt expressions.**Oral presentation**, The European Association for the Study of the Liver (EASL) HCC Summit, Geneva, February 2016.
23. Johnny Amer, **Ahmad Salhab**, Harbi Khalielch, Rifaat Safadi. Neuroligin4 over expression on NK cells cause their impairment in patients with cirrhosis and HCC. ePoster, The European Association for the Study of the Liver (EASL) HCC Summit, Geneva, February 2016.

24. **Ahmad Salhab**, Johnny Amer & Rifaat Safadi. Reduced PI3K pathway in NK cells of F4-NAFLD patients inhibited mTOR expressions and was correlated with their impaired function. Poster at The Liver Meeting[®], AASLD's 67th Annual Meeting in Boston, San Francisco, November, 2016.
25. **Ahmad Salhab**, Johnny Amer & Rifaat Safadi. 25(OH) D3 alleviate liver NK cytotoxicity in early but not in late fibrosis model of Balb/c mice due to modulations in vitamin D receptor. Poster at The Liver Meeting[®], AASLD's 67th Annual Meeting in Boston, San Francisco, November, 2016.
26. Johnny Amer, **Ahmad Salhab**, Rifaat Safadi. 25(OH) D3 alleviate liver NK cytotoxicity in early but not in late fibrosis model of BALB/c mice due to modulations in vitamin D receptor. ePoster, EASL Monothematic Conference: "Liver Fibrosis: the next goal of targeted therapy?", 17-18 June 2016, Porto, Portugal.
27. Johnny Amer, **Ahmad Salhab**, Rifaat Safadi. NK cells from homozygous NLG4^{-/-} (ko) mice inhibit liver fibrosis through PI3k/AKT/mTOR pathway and decreased Interleukin-4. ePoster, EASL Monothematic Conference: "Liver Fibrosis: the next goal of targeted therapy?", 17-18 June 2016, Porto, Portugal.
28. Johnny Amer, **Ahmad Salhab**, Rifaat Safadi. Recombinant β -neuroxin as a therapeutic target to inhibit fibrosis through alleviation in NK cells cytotoxicity following inhibition of Neuroligin-4 (NLG4) receptor. ePoster, EASL Monothematic Conference: "Liver Fibrosis: the next goal of targeted therapy?", 17-18 June 2016, Porto, Portugal.
29. Johnny Amer, **Ahmad Salhab**, Rifaat Safadi. Modulations in vitamin D receptor (VDR) expressions in late fibrosis model of Balb/c mice inhibited 25-Hydroxy-vitamin-D3 alleviation of liver NK cytotoxicity. Poster, EASL annual meeting, Barcelona, 2016.
30. Johnny Amer, **Ahmad Salhab**, Rifaat Safadi. CD49a⁻ CD49b⁺ NK1.1 cells in C57/BL fibrotic livers are distinct from peripheral NK cells in their CD107a/neurologin4 activatory marker. Poster, EASL annual meeting, Barcelona, 2016.
31. Johnny Amer, **Ahmad Salhab** & Rifaat Safadi. NK cells from homozygous NLG4^{-/-} (KO) mice showed increased in their killing activity through PI3K/AKT/mTOR

pathway and decreased interleukin-4. ePoster 660 at The Liver Meeting[®], AASLD's 66th Annual Meeting in Boston, San Francisco, November, 2015.

32. Johnny Amer, **Ahmad Salhab**& Rifaat Safadi. Liver NK cells from NLG4^{-/-} mice inhibit progressions of hepatocellular carcinoma of C57BL/6 mice model through decrease in p53 & Akt expressions. ePoster 1532 at The Liver Meeting[®], AASLD's 66th Annual Meeting in Boston, San Francisco, November, 2015.
33. Johnny Amer, Sarit Doron, **Ahmad Salhab**, Rifaat Safadi. Liver lymphocytes from NLG4^{-/-} (KO) mice showed chronic oxidative stress with reduced respiratory burst response. Poster at The Liver Meeting[®], AASLD's 65th Annual Meeting in Boston, Massachusetts, November, 2014.
34. Johnny Amer, Sarit Doron, **Ahmad Salhab**, Rifaat Safadi. Insulin resistance of CD56^{dim} NK cells decrease NK killing ability in NASH patients with advanced fibrosis. Presidential Poster of Distinction at The Liver Meeting[®], AASLD's 65th Annual Meeting in Boston, Massachusetts, November, 2014. This poster was in the top 10% of all abstracts selected for poster presentation.
35. Johnny Amer, Sarit Doron, **Ahmad Salhab**, Rifaat Safadi. Homozygous NLG4^{-/-} (KO) mice showed chronic oxidative stress with reduced respiratory burst response of liver lymphocytes. Poster, Israeli Association for the Study of Liver, Eilat, June 2014.

Medical students 6th years graduated projects guiding - ANNU

1. Role of bile acid trafficking in modulating and phenotyping liver resident NK cells in mice model of liver fibrosis.
2. Colorectal cancer cells exhibit inhibited expressions of extracellular NTCP associated with reduced bile acids trafficking.
3. Prostate cancer exhibits inhibited expressions of extracellular NTCP associated with reduced bile acids uptake.
4. The involvement of VD3 receptor in NKT cells functionality in NASH mice model.

5. The potential role of lung NK cells in bile acid trafficking in mice model with obesity.
6. The impact of Epigallocatechin gallate treatment on bile acid trafficking in fatty liver mice of leptin deficiency (*Ob/Ob*).
7. The potential role of polyphenol Epigallocatechin 3-Gallate (EGCG) in delaying metabolic profile in High-fat Diet Naive Black Mice (HFD).
8. Liver-lung axis; Bile acids modulation.
9. The role of bile acids on liver tissue resident T cells phenotypic alterations.
10. Investigating the effect of testosterone on the activity of NK cell in liver, pancreas, and prostate in mice model of liver fibrosis.

Computer Knowledge

Word, Excel, Power Point, FCS V9 (Flowcytometry analysis), Zen (Confocal microscopy analysis), ImageJ, Prism 10 (Data statistical analysis).

Languages

Arabic- mother tongue.

English- Excellent

Hebrew- Excellent

Orcid

<https://orcid.org/0000-0003-3556-1054>

References

1. Prof. Rifaat Safadi, Head of Liver institute, Hadassah Hebrew University Hospital, Jerusalem, Israel. Safadi@hadassah.org.il. Mobile: (+972) 508573574.
2. Dr. Johnny Amer; Assistant Professor at Hematology. Faculty of medicine and Health Sciences. An Najah National University. j.amer@najah.edu. Mobile: (+972) 523718231.
3. Prof. Eitan Galun, Head of Goldyne Savad Institute of Gene Therapy, Hadassah Hebrew University Hospital, Jerusalem, Israel. Eithang@hadassah.org.il.
4. Dr. Regina Golan-Gerstl, Pediatric Laboratory, Hadassah Hebrew University Hospital, Jerusalem, Israel. Reginag@hadassah.org.il. Mobile: (+972) 546751429.