

Dr. Waheed Khan
Diabetes
Victorian Heart Institute (VHI)
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Biography

I am a researcher in the field of Epigenetics in diabetes and cardiovascular diseases. My latest work identified the role of exercise induced Epigenetic changes associated with reduced oxidative damage and improved micro vascular phenotype in the elderly. My current interest is to understanding the role of epigenetic mechanisms in diabetes associated atherosclerosis.

Qualifications

Epigenetics, PhD, University of Melbourne
Award Date: 4 Apr 2017

Employment

Research Fellow

Diabetes
MONASH UNIVERSITY
4 Mar 2019 → present

Victorian Heart Institute (VHI)

MONASH UNIVERSITY
1 Jun 2021 → present

Research outputs

Cell-specific epigenetic changes in atherosclerosis

Khan, A. W., Paneni, F. & Jandeleit-Dahm, K. A. M., May 2021, In: Clinical Science. 135, 9, p. 1165-1187 23 p.

Nuclear functions of microRNAs relevant to the cardiovascular system

Khan, A. W., 1 Apr 2021, In: Translational Research. 230, p. 151-163 13 p.

Nox5 in circulating peripheral blood mononuclear cells: a potential biomarker in unstable diabetic vascular and renal disease

Block, T., Sourris, K. C., Khan, A. W., Kantharidis, P., Jha, J. C., Cooper, M. E., Shaw, J. A. & Jandeleit-Dahm, K. A. M., 2021, In: Diabetologia. 64, p. s87-s88 2 p.

NOX5 as a potential biomarker in circulating peripheral blood mononuclear cells in chronic kidney disease

Block, T., Sourris, K. C., Khan, A. W., Kantharidis, P., Jha, J. C., Cooper, M. E., Shaw, J. A. & Jandeleit-Dahm, K. A. M., Nov 2020, In: Nephrology. 25, S3, p. 19 1 p.

Hyperglycemia induces myocardial dysfunction via epigenetic regulation of JunD

Hussain, S., Khan, A. W., Akhmedov, A., Suades, R., Costantino, S., Paneni, F., Caidahl, K., Mohammed, S. A., Hage, C., Gkolfos, C., Björck, H., Pernow, J., Lund, L. H., Lüscher, T. F. & Cosentino, F., 23 Oct 2020, In: Circulation Research. 127, 10, p. 1261-1273 13 p.

DNA methylation patterns from peripheral blood separate coronary artery disease patients with and without heart failure

Bain, C., Ziemann, M., Kaspi, A., Khan, A. W., Taylor, R., Trahair, H., Khurana, I., Kaipananickal, H., Wallace, S., El-Osta, A., Myles, P. S. & Bozaoglu, K., Oct 2020, In: ESC Heart Failure. 7, 5, p. 2468-2478 11 p.

High-intensity interval training modulates retinal microvascular phenotype and DNA methylation of p66^{Shc} gene: A randomized controlled trial (EXAMIN AGE)

Streese, L., Khan, A. W., Deiseroth, A., Hussain, S., Suades, R., Tiaden, A., Kyburz, D., Cosentino, F. & Hanssen, H., 14 Apr 2020, In: *European Heart Journal*. 41, 15, p. 1514-1519 6 p.

Targeting Treatment Refractory NET by EZH2 Inhibition in Postural Tachycardia Syndrome

Kaipananickal, H., Khan, A. W., Okabe, J., Corcoran, S. J., Esler, M. D. & El-Osta, A., 10 Apr 2020, In: *Circulation Research*. 126, 8, p. 1058-1060 3 p.

Physical activity may drive healthy microvascular ageing via downregulation of p66^{Shc}

Streese, L., Khan, A. W., Deiseroth, A., Hussain, S., Suades, R., Tiaden, A., Kyburz, D., Hanssen, H. & Cosentino, F., 1 Jan 2020, In: *European Journal of Preventive Cardiology*. 27, 2, p. 168-176 9 p.

Sex-Based Mhrt Methylation Chromatinizes MeCP2 in the Heart

Harikrishnan, K. N., Okabe, J., Mathiyalagan, P., Khan, A. W., Jadaan, S. A., Sarila, G., Ziemann, M., Khurana, I., Maxwell, S. S., Du, X. J. & El-Osta, A., 26 Jul 2019, In: *iScience*. 17, p. 288-301 14 p.

AP-1 transcription factor JunD protects against cardiac microRNA derangement in diabetes

Suades, R., Hussein, S. & Khan, A. W., Aug 2018, In: *European Heart Journal*. 39, Suppl_1, p. 1076--1077 2 p.

Downregulation of JunD transcription factor leads to myocardial oxidative stress and inflammation in diabetes: role of epigenetics

Khan, A. W. & Cosentino, F., 2018.

MeCP2 interacts with chromosomal microRNAs in brain

Khan, A. W., Ziemann, M., Rafehi, H., Maxwell, S., Ciccotosto, G. D. & El-Osta, A., 2 Dec 2017, In: *Epigenetics*. 12, 12, p. 1028-1037 10 p.

NET silencing by let-7i in postural tachycardia syndrome

Khan, A. W., Ziemann, M., Corcoran, S. J., Khan, H., Okabe, J., Rafehi, H., Maxwell, S. S., Esler, M. D. & El-Osta, A., 23 Mar 2017, In: *JCI Insight*. 2, 6, 11 p., e90183.

Epigenomic changes associated with impaired norepinephrine transporter function in postural tachycardia syndrome

Khan, A. W., Corcoran, S. J., Esler, M. & El-Osta, A., 1 Mar 2017, In: *Neuroscience and Biobehavioral Reviews*. 74, p. 342-355 14 p.

Improving understanding of chromatin regulatory proteins and potential implications for drug discovery

Rafehi, H., Khan, A. W. & El-Osta, A., 2 Apr 2016, In: *Expert Review of Proteomics*. 13, 4, p. 435-445 11 p.

Current advances in noncoding RNA relevant to epigenetic mechanisms

Mathiyalagan, P., Khan, W., Du, X-J. & El-Osta, A., Mar 2015, In: *Current Molecular Biology Reports*. 1, 1, p. 29 - 38 10 p.

RNA sequencing supports distinct reactive oxygen species-mediated pathways of apoptosis by high and low size mass fractions of Bay leaf (*Lauris nobilis*) in HT-29 cells

Rodd, A. L., Ververis, K., Sayakkara, D., Khan, A. W., Rafehi, H., Ziemann, M., Loveridge, S. J., Lazarus, R., Kerr, C. A., Lockett, T., El-Osta, A., Karagiannis, T. C. & Bennett, L. E., 2015, In: *Food & Function*. 6, 8, p. 2507-2524 18 p.

Regulation of inflammatory gene expression by histone acetylation and HDAC inhibition in human aortic endothelial cells

Rafehi, H., Balcerzyk, A., Lunke, S., Kaspi, A. D., Ziemann, M., Kaipananickal, H., Okabe, J., Khurana, I., Ooi, J., Khan, A. W., Du, X-J., Chang, L., Haviv, I., Keating, S. T., Karagiannis, T. & El-Osta, S., 2015, In: *Atherosclerosis*. 241, 1, p. e6 1 p.

Deep sequencing reveals novel Set7 networks

Keating, S. T., Ziemann, M., Okabe, J., Khan, A. W., Balcerzyk, A. & El-Osta, A., 2014, In: Cellular and Molecular Life Sciences. 71, 22, p. 4471-4486 16 p.

Genetic variants within the second intron of the KCNQ1 gene affect CTCF binding and confer a risk of Beckwith-Wiedemann syndrome upon maternal transmission

Demars, J., Shmela, M. E., Khan, A. W., Lee, K. S., Azzi, S., Dehais, P., Netchine, I., Rossignol, S., Le Bouc, Y., El-Osta, A. & Gicquel, C., 2014, In: Journal of Medical Genetics. 51, 8, p. 502-511 10 p.

Vascular histone deacetylation by pharmacological HDAC inhibition

Rafehi, H., Balcerzyk, A., Lunke, S., Kaspi, A., Ziemann, M., Harikrishnan, K. N., Okabe, J., Khurana, I., Ooi, J., Khan, A. W., Du, X-J., Chang, L. H. C., Haviv, I., Keating, S. T., Karagiannis, T. & El-Osta, A., 2014, In: Genome Research. 24, 8, p. 1271-1284 14 p.

The Frey procedure for chronic pancreatitis secondary to pancreas divisum

Pappas, S. G., Pilgrim, C. H. C., Keim, R., Harris, R., Wilson, S., Turaga, K., Tsai, S., Dua, K., Khan, A., Oh, Y., Gamblin, T. C. & Christians, K., Nov 2013, In: JAMA Surgery. 148, 11, p. 1057-1062 6 p.

Bacteriological quality assessment of raw milk under traditional managemental system in Quetta, Pakistan

Shafee, M., Khan, A. W., Samad, A., Abbas, F., Babar, S., Awan, M. A. & Wadood, A., 19 Sep 2013, In: Pakistan Journal of Zoology. 45, 4, p. 1150-1153 4 p.

Approaches for Dissection of the Genetic Basis of Complex Disease Development in Human

Lake, N. J., Bozaoglu, K., Khan, A. W. & Jowett, J. B. M., 24 Feb 2012, *Genetic Diversity in Microorganisms*. Caliskan, M. (ed.). Croatia: In-Tech, p. 309-338 38 p.

Conventional B2 B cell depletion ameliorates whereas its adoptive transfer aggravates atherosclerosis

Kyaw, T., Tay, C., Khan, A., Dumouchel, V., Cao, A., To, K., Kehry, M., Dunn, R., Agrotis, A., Tipping, P., Bobik, A. & Toh, B-H., 2010, In: Journal of Immunology. 185, 7, p. 4410 - 4419 10 p.

Prizes

Diabetes Wellness Junior Grant for "Role of acetyltransferase GCN5 in endothelial oxidative stress in diabetes

Khan, Waheed (Recipient), 2018

Karolinska Institute research Grant "Role of AP-1 transcription factor JunD in diabetes-induced endothelial dysfunction and inflammation

Khan, Waheed (Recipient), 2018

Master's Scholarship, Faculty development program, University of Balochistan, Pakistan

Khan, Waheed (Recipient), 2009

PhD Scholarship: Melbourne International Fee Remission Scholarship (MIFRS)

Khan, Waheed (Recipient), 2012

PhD stipend Scholarship, Baker IDI heart and diabetes Institute, Melbourne, Australia

Khan, Waheed (Recipient), 2012

Postdoctoral scholarship: Karolinska Institute, Stockholm, Sweden

Khan, Waheed (Recipient), 2017

Projects

Role of EZH2 in atherosusceptible vascular endothelium in diabetes associated atherosclerosis

Khan, W., Cooper, M. & Jandeleit-Dahm, K.

1/04/21 → 31/12/21

Role of histone methyltransferase EZH2 in diabetes associated atherosclerosis

Khan, W.

1/04/20 → 31/03/22