

# Dr. Saba Abdi

Associate Professor,

Department of Biochemistry, College of Science

King Saud University, P.O. Box 22452, Riyadh 11495,  
Saudi Arabia

phone: (011) 8050884

cell: 0556464383

Email :Sabdi@ksu.edu.sa

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## EDUCATION

**Jawaharlal Nehru Medical College, Aligarh Muslim University, India**

Ph. D Biochemistry

*May 2000*

Thesis: Studies on Free Radical Modified Human DNA

**Interdisciplinary Biotechnology Unit, Aligarh Muslim University, India**

MSc Biotechnology

*November 1995*

Thesis: Isolation and characterization of Hen Egg White Lysozyme

**Women's College, Aligarh Muslim University, India**

BSc Chemistry

*August 1993*

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## PROFESSIONAL EXPERIENCE

Work experience:

Teaching experience:

**2023 to date : Associate Professor, Biochemistry, King Saud University, Saudi Arabia**

**2006 to 2023: Assistant Professor, Biochemistry, King Saud University, Saudi Arabia**

**2005-2006: Assistant Professor, Prince Sultan University, Saudi Arabia.**

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**Research experience:**

Various biochemistry courses at Graduate and Post Graduate level including: enzymology ,molecular biology, endocrinology , biochemistry of specialized tissue , biomembranes, biochemistry of fluids, biomolecules, Immunology , Molecular genetics and metabolism .

**Supervision of research projects:**

Conversant with the techniques involved in immunology such as the ELISA, Immune-blotting, dot-blotting, immune -fluorescence,immuno-precipitation,Counter immune electrophoresis, immunodiffusion, band shift assay, gel retardation assay, ion exchange chromatography and affinity chromatography.

Acquainted with basic molecular biology techniques such as isolation of mammalian DNA, bacterial DNA and plasmid. Characterization of various nucleic acids using techniques such as Agarose gel electrophoresis, PAGE, alkaline sucrose density gradient ultracentrifugation, PCR, RT-PCR

Hepatokines Fetuin-A and Fetuin-B status in obese Saudi patient with diabetes mellitus type 2(MSc students research project, *ongoing*)

Molecular Analysis of Impact of Non-canonical Splice-site Mutations on RNA Splicing of Genes Involved in Congenital Hypothyroidism (MSc students research project, *April 2021*)

Impact of oral vitamin D supplementation on serum Carboxypeptidase N and nitric-oxide levels in Saudi patients(MSc students research project , *December 2019*)

Association of IL-6 and TNF- $\alpha$  gene polymorphisms with the risk of Alzheimer's disease in Saudi subjects (MSc students research project , *December 2019* )

Association between Cadmium and Bone Mineral Density in Postmenopausal Osteoporotic Saudi subjects (MSc students research project , *November 2019*)

NPST, KSU funded project titled “Association of gene polymorphisms in the PTH, RANKL and calcium metabolism pathways in Saudi subjects with osteoporosis” *June 2017*).

Screening for biochemical markers of bone turnover in postmenopausal osteoporotic Saudi subjects (MSc students research project, *June, 2017*)

Association study of Single Nucleotide Polymorphism of RANK, RANKL

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and OPG genes in postmenopausal Osteoporotic Saudi Subjects ( *Ju*  
*2017*)

Effect of vitamin D binding protein polymorphisms and vitamin  
supplementation on serum vitamin D concentration in Saudi T2DM subje  
(MSc students research project, Completed in *June,2017*)

Vitamin D receptor and Calcium sensing receptor gene polymorphisms in  
postmenopausal Saudi women (MSc students research project, Completed i  
*June 2016*)

Polymorphisms in BRCA1 & TP53 Genes and Ovarian Cancer Risk in  
Saudi Females( KAUST funded Msc research project MSc students,  
Completed in *June 2015*)

Association Study of Single Nucleotide Polymorphism of PTH Gene in  
Osteoporosis Among Saudi Population ( MSc students research project,  
Completed in *June 2012*)

**Other experience:**

Member of Committees in  
Department of Biochemistry

A Study on the role of Map Kinases in progression of asthma in murine  
model. (Msc research project , completed in *June 2012*)

Coordinator (female section) of the Development and Quality  
committee (*from 2018 to date*)

Member of Research Cooperation committee (*from 2021 to date*)

Member of Accreditation committee (*from2008 to 2017*)

Member of Curriculum committee (*from2014 to 2017*)

Member of PhD program committee (*from2018-2019*)

Member of postgraduate Research and Scientific studies (*from 2014 to*  
*2015*)

**Conferences**

Research Article “Hepatokines Fetuin-A and inflammatory marker CRP status in  
Saudi metabolic syndrome patients”, published at International Conference and  
Exhibition for Science (ICES 2023) King Saud University ,Riyadh

Speaker at *4th International Conference of the Saudi Osteoporosis*  
*Society (2018)*. Title of presentation: “Association study of Single  
Nucleotide Polymorphism of RANKL and OPG Genes in  
Postmenopausal Osteoporotic Saudi Subjects.Authors: Rawan A.  
BinBaz, **Saba Abdi**, Abdul Khader Mohammed<sup>1</sup>, Osama E. Amer,  
Naji Aljohani, Nasser M. Al-Daghri

First prize in the category of oral presentations at *The Fifth Annual*

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#### Grants and fellowships

*Clinical Congress of the Gulf Chapter of the American Association of Clinical Endocrinologists*, as presented by Shaun Louie Sabico (October, 2017). Title of presentation: Common Genetic Variants in Vitamin D protein (DBP) Gene Modify the Response to Vitamin D Supplementation. Authors: Nasser Al-Daghri, Maryam Rikli, **Saba Abdi**, Abdul Khader Mohammed, Majed S.Alokail

Poster presentation at *The 18<sup>th</sup> Workshop on Vitamin D, Delft, Netherlands (April, 2015)*. Title of poster : Association of Gene variants in the Vitamin D Receptor and calcium Sensing Receptor Gene in Postmenopausal Saudi Women with Osteoporosis . Authors: **Saba Abdi**, Ranya Alhaj Dawod, Abdul Khader Mohammed, Majed S.Alokail and Nasser M. Al-Daghri (2015)

NPST, KSU grant for project titled “Association of gene polymorphisms in the PTH, RANKL and calcium metabolism pathways in Saudi subjects with osteoporosis

Merit Scholarship during Masters program at Interdisciplinary Biotechnology Unit, A.M.U. Aligarh.

Qualified GATE-96 conducted by University Grant Commission (UGC), Government of India, New Delhi

Research Assistant Fellowship by a DBT sponsored project entitled “ Monoclonal antibodies against DNA modified by Reactive Oxygen species: Molecular Probes for aging and cancer”.

Senior Research Fellowship by an ICMR sponsored project entitled “ A Systematic Study on the photo-conjugation between amino acids and nucleic acids and their possible role in the pathogenesis of SLE”.

#### PUBLICATIONS

##### Author Book Chapters:

- Abdi Saba , “Animal Models For The Study Of Autism.” Animal Models In Experimental Medicine: Bentham Science Publishers,2024, pp. 199-213. ISBN: 978-981-5196-39-9,DOI:[10.2174/97898151963821240101](https://doi.org/10.2174/97898151963821240101)
- Abdi Saba , Author last name, First name. “Animal Models For The Study Of Osteoporosis.” Animal Models In Experimental Medicine: Subtitle, edited by Faris Q. Alenzi, Bentham Science Publishers ,2024, pp. 221-238. ISBN: 978-981-5196-39-9,DOI:[10.2174/97898151963821240101](https://doi.org/10.2174/97898151963821240101)

##### Author Research Articles:

- Yakout, Sobhy M., **Saba Abdi**, Alhanouf H. Alaskar, Malak Nawaz Khan Khattak, Abeer A. Al-Masri, and Nasser M. Al-Daghri. "Impact of Vitamin D Status Correction on Serum Lipid Profile, Carboxypeptidase N and Nitric Oxide Levels in Saudi Adults." *International Journal of Molecular Sciences* 24, no. 9 (2023): 7711.
- Al-Daghri, Nasser M., Shaun Sabico, Mohammed GA Ansari, **Saba Abdi**, Gyanendra Tripathi, George P. Chrousos, and Philip G. McTernan. "Endotoxemia, vitamin D and premature biological ageing in Arab adults with different metabolic states." *Saudi Journal of Biological Sciences* 29, no. 6 (2022): 103276. [Endotoxemia, vitamin D and premature biological ageing in Arab adults with different metabolic states - ScienceDirect](#)
- Amer, Osama E., Kaiser Wani, Mohammed GA Ansari, Abdullah M. Alnaami, Naji Aljohani, **Saba Abdi**, Syed D. Hussain, Nasser M. Al-Daghri, and Majed S. Alokail. "Associations of Bone Mineral Density with RANKL and Osteoprotegerin in Arab Postmenopausal Women: A Cross-Sectional Study." *Medicina* 58, no. 8 (2022): 976. [Medicina | Free Full-Text | Associations of Bone Mineral Density with RANKL and Osteoprotegerin in Arab Postmenopausal Women: A Cross-Sectional Study \(mdpi.com\)](#)
- Almarashda, Ola, **Saba Abdi**, Sobhy Yakout, Malak Nawaz Khan Khattak, and Nasser M. Al-Daghri. "Hepatokines Fetuin-A and Fetuin-B status in obese Saudi patient with diabetes mellitus type 2." *American Journal of Translational Research* 14, no. 5 (2022): 3292. [Hepatokines Fetuin-A and Fetuin-B status in obese Saudi patient with diabetes mellitus type 2 \(nih.gov\)](#)
- Alyami, Nouf M., **Saba Abdi**, Hanadi M. Alyami, and Rafa Almeer. "Proanthocyanidins alleviate pentylentetrazole-induced epileptic seizures in mice via the antioxidant activity." *Neurochemical Research* 47, no. 10 (2022): 3012-3023. [Proanthocyanidins alleviate pentylentetrazole-induced epileptic seizures in mice via the antioxidant activity | SpringerLink](#)
- **Abdi, Saba**, Amani A. Alghamdi, Nouf Nasser Abdullah AlGhunaim, Reem Muteb Almutairi, Farid Shokry Ataya, Mohammed Ghouse Ahmed Ansari, Syed Danish Hussain et al. "Association of Alzheimer's Disease with Genetic Variants of Apolipoprotein E, Clusterin, TNF- $\alpha$ , and IL-6 Among Elderly Saudis." *Current Pharmaceutical Biotechnology* 23, no. 15 (2022): 1893-1902. [Association of Alzheimer's Disease with Genetic Variants of...: Ingenta Connect](#)
- **Abdi, S.**; Almiman, A. A.; Ansari, M. G. A.; Alnaami, A. M.; Mohammed, A. K.; Aljohani, N. J.; Alenad, A.; Alghamdi, A.; Alokail, M. S.; Al-Daghri, N. M., PTHR1 Genetic Polymorphisms Are Associated with Osteoporosis among Postmenopausal Arab Women. *BioMed Research International* **2021**, 2021, 2993761. <https://www.hindawi.com/journals/bmri/2021/2993761/>
- Al-Daghri, Nasser M., **Saba Abdi**, Shaun Sabico, Abdullah M. Alnaami, Kaiser A. Wani, Mohammed GA Ansari, Malak Nawaz Khan Khattak et al. "Gut-Derived Endotoxin and Telomere Length Attrition in Adults with and without Type 2 Diabetes." *Biomolecules* 11, no. 11 (2021): 1693 <https://www.mdpi.com/2218-273X/11/11/1693>
- Albader, Najla, Minjing Zou, Huda A. BinEssa, **Saba Abdi**, Anwar F. Al-Enezi, Brian F. Meyer, Ali S. Alzahrani, and Yufei Shi. "Insights of

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Noncanonical Splice-site Variants on RNA Splicing in Patients With Congenital Hypothyroidism." *The Journal of Clinical Endocrinology & Metabolism* (2021). <https://academic.oup.com/jcem/advance-article-abstract/doi/10.1210/clinem/dgab737/6387077>

- Ansari, Mohammed, Abdul Khader Mohammed, Kaiser A. Wani, Syed D. Hussain, Abdullah M. Alnaami, **Saba Abdi**, Naji J. Aljohani, and Nasser M. Al-Daghri. "Vitamin D Receptor Gene Variants Susceptible to Osteoporosis in Arab Post-Menopausal Women." *Current Issues in Molecular Biology* 43, no. 3 (2021): 1325-1334. <https://www.mdpi.com/1467-3045/43/3/94>
  - **Abdi, Saba**, Rawan A. Binbaz, Abdul Khader Mohammed, Mohammed GA Ansari, Kaiser Wani, Osama E. Amer, Abdullah M. Alnaami, Naji Aljohani, and Nasser M. Al-Daghri. "Association of RANKL and OPG Gene Polymorphism in Arab Women with and without Osteoporosis." *Genes* 12, no. 2 (2021): 200 <https://www.mdpi.com/979204>
  - **Abdi, Saba**, Ihtisham Bukhari, Mohammed GA Ansari, Rawan A. BinBaz, Abdul Khader Mohammed, Syed Danish Hussain, Naji Aljohani, and Nasser M. Al-Daghri. "Association of Polymorphisms in RANK and RANKL Genes with Osteopenia in Arab Postmenopausal Women." *Disease Markers* 2020 (2020). <https://www.hindawi.com/journals/dm/2020/1285216/>
  - Almeer, Rafa S., Saad Alkahtani, Saud Alarifi, Ahmed E. Abdel Moneim, Saba Abdi, and Gadah Albasher. "Ziziphus spina-christi Leaf Extract Mitigates Mercuric Chloride-induced Cortical Damage in Rats." *Combinatorial Chemistry & High Throughput Screening* 25, no. 1 (2022): 103-113. <https://europepmc.org/article/med/33280592>
  - Ghaleb, Afnan, **Saba Abdi**, Sobhy Yakout, Syed Danish Hussain, Kaiser Wani, Mohammad Masoud, Abdullah Alnaami, and Nasser M. Al-Daghri. "Serum iron deficiency and 25-hydroxyvitamin D deficiency as an independent risk factor for osteoporosis in postmenopausal Arab women." *Journal of King Saud University-Science* 33, no. 1 (2021): 101217. <https://www.sciencedirect.com/science/article/pii/S1018364720303219>
  - Yakout, Sobhy M., Fatimah Alharbi, **Saba Abdi**, Nasser M. Al-Daghri, Abir Al-Amro, and Malak Nawaz Khan Khattak. "Serum minerals (Ca, P, Co, Mn, Ni, Cd) and growth hormone (IGF-1 and IGF-2) levels in postmenopausal Saudi women with osteoporosis." *Medicine* 99, no. 27 (2020). <https://www.ncbi.nlm.nih.gov/pmc/articles/pmc7337560/>
  - Alyahri, Nora, **Saba Abdi**, Wajahatullah Khan, Mohamed Elrobh, Mohammed H. Addar, Zeneb A. Babay, Mohamed Alanazi et al. "Novel associations between BRCA1 variants C. 181 T> G (Rs28897672) and ovarian Cancer risk in Saudi females." *Journal of medical biochemistry* 38, no. 1 (2019): 13. <https://www.ncbi.nlm.nih.gov/pmc/articles/pmc6298454/>
  - Al-Daghri, Nasser M., Abdul Khader Mohammed, Ihtisham Bukhari, Maryam Rikli, **Saba Abdi**, Mohammed Ghouse Ahmed Ansari, Shaun Sabico et al. "Efficacy of vitamin D supplementation according to vitamin D-binding protein polymorphisms." *Nutrition* 63 (2019): 148-154.
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- Almeer, Rafa, A. Alqarni, S. Alqattan, **S. Abdi**, S. Alarifi, Z. Hassan, and A. Semlali. "Effect of Honey in Improving Breast Cancer Treatment and Gene Expression Modulation of MMPs and TIMPs in Triple-Negative Breast Cancer Cells." *Pakistan Journal of Zoology* 50, no. 6 (2018).  
[Effect-of-Honey-in-Improving-Breast-Cancer-Treatment-and-Gene-Expression-Modulation-of-MMPs-and-TIMPs-in-Triple-Negative-Breast-Cancer-Cells.pdf \(researchgate.net\)](#)
- Al-Suwailem, E., **S. Abdi**, R. S. Bhat, and A. El-Ansary. "Glutamate Signaling Defects in Propionic Acid Orally Administered to Juvenile Rats as an Experimental Animal Model of Autism." *Neurochemical Journal* 13, no. 1 (2019): 90-98.
- Al-Suwailem, Etidal, **Saba Abdi**, and Afaf El-Ansary. "Sex differences in the glutamate signaling pathway in juvenile rats." *Journal of neuroscience research* 96, no. 3 (2018): 459-466
- Ahsan, H., **S. Abdi**, and A. Ali. "Recognition of DNA-arginine photoadduct by anti-DNA autoantibodies in systmic lupus erythematosus." *Indian Journal of Medical Research* 115 (2002): 201.  
<https://search.proquest.com/openview/fac9df45c14c68a1d0474b53e8b2efaf/1?pq-origsite=gscholar&cbl=37533>
- **Abdi, Saba**, and Asif Ali. "Role of ROS modified human DNA in the pathogenesis and etiology of cancer." *Cancer letters* 142, no. 1 (1999): 1-9. <https://www.sciencedirect.com/science/article/pii/S0304383599001123>
- M. Aslam, Moinuddin, **S. Abdi**, S. Siddique & A. Ali (2002). "Effect of radio/chemotherapy on the level of anti-ROS- DNA antibodies in cancer patients". *J Clin. Radiotherapy oncology*. 2, 17-22.
- **S. Abdi**, H. Ahsan & A. Ali (2000). "Studies on antibodies against reactive oxygen species modified human Placental DNA". *J. Biochem, Mol. Biol. & Biophys.*, Vol. 4, pp.433-443

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#### PERSONAL DETAILS:

Nationality : Indian

Gender : Female

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