

## Asst. Prof. AHMET EMİN ATİK

### Personal Information

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### International Researcher IDs

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### Biography

Dr. Ahmet Emin Atik graduated with honor degree from the Chemistry Department of Izmir Institute of Technology (IZTECH) in 2005. He earned his MSc degree in 2007 and his PhD in Physical Chemistry from IZTECH in 2013, under the supervision of Prof. Dr. Talat Yalçın, where his PhD thesis focused on the gas-phase fragmentation studies of peptide *b* ions by mass spectrometry. During his graduate years, he worked as a research and teaching assistant at the Institute of Engineering and Science, IZTECH, for 8 years. He was appointed as a visiting scientist at Centre Laser Infrarouge d'Orsay (CLIO), Université Paris-Sud XI (France) in the lab of Prof. Philippe Maître for three months (2012). In CLIO, he focused on the gas-phase structures of acetylated peptide *b* ions via infrared multiphoton dissociation (IRMPD) technique. From January 2013 to June 2015, he worked as a postdoctoral researcher in the Biological Mass Spectrometry and Proteomics Facility at IZTECH.

Dr. Atik joined Turgut Pharmaceuticals in 2015 as a Protein Analysis Specialist. After one year, he became the Head of Protein Analytics in the same company. In 2020, he was promoted to the Quality Control Manager position in the Biotechnology Department of Turgut Pharmaceuticals. He has over 18 years of experience in mass spectrometric characterization of peptides and proteins. His current research focuses on the physicochemical and functional characterization of monoclonal antibodies (mAbs) with state-of-the-art analytical techniques (e.g. high-resolution mass spectrometry, capillary electrophoresis, binding kinetics with surface plasmon resonance, etc).

### Education Information

Post Doctorate, Izmir Institute Of Technology, Faculty Of Science, Department Of Chemistry (English), Turkey 2013 - 2015

Doctorate, Izmir Institute Of Technology, Institute Of Engineering And Natural Sciences, Department of Chemistry, Turkey 2007 - 2013

Postgraduate, Izmir Institute Of Technology, Institute Of Engineering And Natural Sciences, Department of Chemistry, Turkey 2005 - 2007

Undergraduate, Izmir Institute Of Technology, Faculty Of Science, Department Of Chemistry (English), Turkey 2001 - 2005

### Foreign Languages

English, C1 Advanced

## Dissertations

Doctorate, Studies of gas-phase fragmentation mechanisms of peptide b ions by mass spectrometry, Izmir Institute Of Technology, Institute Of Engineering And Natural Sciences, Chemistry Department, 2013

Postgraduate, A proteomic approach for identifying boron-stress tolerant proteins in barley genotypes, Izmir Institute Of Technology, Institute Of Engineering And Natural Sciences, Department of Chemistry, 2007

## Research Areas

Life Sciences, Biotechnology, Chemistry, Mass Spectroscopy

## Academic Titles / Tasks

Assistant Professor, Acibadem Mehmet Ali Aydinlar University, Faculty Of Engineering and Natural Sciences, Basic Sciences, 2021 - Continues

Research Assistant, Izmir Institute Of Technology, Institute Of Engineering And Natural Sciences, Chemistry Department, 2005 - 2013

## Courses

General Chemistry, Undergraduate, 2022 - 2023, 2021 - 2022

General Chemistry 1, Undergraduate, 2022 - 2023, 2021 - 2022

Selected Topics in Biological Mass Spectrometry, Postgraduate, 2021 - 2022

Basic Chemistry 1, Undergraduate, 2022 - 2023, 2021 - 2022

Selected Topics in Biological Mass Spectrometry, Doctorate, 2021 - 2022, 2020 - 2021

## Advising Theses

Atik A. E., Assessment of physicochemical quality of monoclonal antibody based drugs at thermal stress and stability conditions, Postgraduate, C.Pamukcu(Student), 2023

## Taught Courses And Trainings

Atik A. E., ISPE Emerging Leaders Biyoteknoloji Konferansı, 2022 - 2022

## Published journal articles indexed by SCI, SSCI, and AHCI

### I. Gas-phase fragmentation reactions of a(7) ions containing a glutamine residue

ATİK A. E., Arslanoglu A., Yalcin T.

JOURNAL OF MASS SPECTROMETRY, vol.56, no.8, 2021 (SCI-Expanded)

### II. Observation of the side chain 0-methylation of glutamic acid or aspartic acid containing model peptides by electrospray ionization-mass spectrometry

Atik A. E., Guray M. Z., Yalcin T.

JOURNAL OF CHROMATOGRAPHY B-ANALYTICAL TECHNOLOGIES IN THE BIOMEDICAL AND LIFE SCIENCES, vol.1047, pp.75-83, 2017 (SCI-Expanded)

### III. Gas-phase structures and proton affinities of N-terminal proline containing b(2)(+) ions from

### **protonated model peptides**

Karaca S., Atik A. E., Elmaci N., Yalcin T.

INTERNATIONAL JOURNAL OF MASS SPECTROMETRY, vol.393, pp.1-8, 2015 (SCI-Expanded)

### **IV. Specific rearrangement reactions of acetylated lysine containing peptide b(n) (n=4-7) ion series**

Atik A. E., Hernandez O., Maitre P., Yalcin T.

JOURNAL OF MASS SPECTROMETRY, vol.49, no.12, pp.1290-1297, 2014 (SCI-Expanded)

### **V. Protonated Dipeptide Losses from b(5) and b(4) Ions of Side Chain Hydroxyl Group Containing Pentapeptides**

Atik A. E., Yalcin T.

JOURNAL OF THE AMERICAN SOCIETY FOR MASS SPECTROMETRY, vol.24, no.10, pp.1543-1554, 2013 (SCI-Expanded)

### **VI. The role of lysine epsilon-amine group on the macrocyclization of b ions**

Atik A. E., Gorgulu G., Yalcin T.

INTERNATIONAL JOURNAL OF MASS SPECTROMETRY, vol.316, pp.84-90, 2012 (SCI-Expanded)

### **VII. Proteomic changes during boron tolerance in barley (*Hordeum vulgare*) and the role of vacuolar proton-translocating ATPase subunit E**

ATIK A. E., BOZDAG G. O., Akinci E., KAYA A., KOC A., YALCIN T., KARAKAYA H. C.

TURKISH JOURNAL OF BOTANY, vol.35, no.4, pp.379-388, 2011 (SCI-Expanded)

### **VIII. A Systematic Study of Acidic Peptides for b-Type Sequence Scrambling**

Atik A. E., Yalcin T.

JOURNAL OF THE AMERICAN SOCIETY FOR MASS SPECTROMETRY, vol.22, no.1, pp.38-48, 2011 (SCI-Expanded)

## **Articles Published in Other Journals**

### **I. Effects of thermal treatment on quality of biosimilar and originator monoclonal antibodies**

Erdemgil Y., Yamacı M. Ç., Pamukcu C., Ünalp F., Yıldırım Keleş Z. Z., Atik A. E., SERDAR M. A.

Advances in Sample Preparation, vol.10, 2024 (Scopus)

### **II. Physicochemical and Functional Characterization of a Candidate Adalimumab Biosimilar TUR01**

Atik A. E., Demirhan D., Alpan R. S.

25th European Society for Animal Cell Technology Meeting, BMC Proceedings, vol.12, pp.13, 2018 (Conference Book)

## **Books & Book Chapters**

### **I. Nanoanalytic: Quantitative Analytical Tools That Give an Idea of How Does the Cell Act at the Molecular Level**

Atik A. E.

in: Nanobiyoteknoloji, Prof. Dr. Ata Akin, Editor, Türkiye Klinikleri Yayınevi, Ankara, pp.1-5, 2021

## **Refereed Congress / Symposium Publications in Proceedings**

### **I. Biosimilarity Demonstration with Orthogonal Analytical Techniques**

Atik A. E.

6th International Congress on Applied Biological Science, Adana, Turkey, 8 - 09 December 2021, pp.15-18

### **II. Analytical Characterization for the Comparability Evaluation of TUR03 Drug Substance and Innovator Lots by Mass Spectrometry**

Atik A. E.

3rd International Congress on Analytical and Bioanalytical Chemistry, İstanbul, Turkey, 22 - 26 March 2021, pp.77-

- III. **Monoklonal Antikor Yapısındaki Biyobenzer ve Referans İlaçların Stres Koşullarındaki Davranışlarının Kütle Spektrometresi ile İncelenmesi**  
Atik A. E.  
3. Ulusal Proteomik Kongresi (TUPA), İstanbul, Turkey, 27 - 29 February 2020, pp.21
- IV. **Terapötik Monoklonal Antikorun Stres Koşulları Altında Bağlanma Özelliklerinin İncelenmesi**  
Atik A. E., Demirhan D., Can Ö., Alpan R. S.  
3. Ulusal Proteomik Konferansı (TUPA), İstanbul, Turkey, 27 - 29 February 2020, pp.42
- V. **Comparison of Methionine Oxidation Profiles of Biosimilars TUR01 Monoclonal Antibody to Its Reference Under Oxidative Stress**  
Atik A. E.  
22nd International Mass Spectrometry Conference (IMSC), Florence, Italy, 26 - 31 August 2018, pp.511-512
- VI. **Gas-Phase Fragmentation Mechanisms Studies of Doubly-Protonated Peptide Ions Containing Basic Amino Acid Residues by Mass Spectrometry**  
Atik A. E., Yalçın T.  
22nd International Mass Spectrometry Conference (IMSC), Florence, Italy, 26 - 31 August 2018, pp.952-953
- VII. **Oksidatif Stres Altındaki Referans & Biyobenzer Monoklonal Antikorun Karşılaştırılmış Fizikokimyasal Analizleri**  
Atik A. E., Demirhan D., Can Ö., Serdar M. A.  
2. Ulusal Proteomik Konferansı (TUPA), İstanbul, Turkey, 24 - 25 November 2017, pp.32
- VIII. **Biyobenzer Bir Monoklonal Antikorun Fonksiyonel ve Sitotoksik Özelliklerinin Belirlenmesi ve Referans Ürün ile Karşılaştırılması**  
Atik A. E., Demirhan D., Can Ö.  
2. Ulusal Proteomik Konferansı (TUPA), İstanbul, Turkey, 24 - 25 November 2017, pp.40
- IX. **Improvement of Glycosylation Profile to Increase Similarity of Adalimumab Biosimilars to the Innovator with High-Resolution Mass Spectrometry**  
Atik A. E., Demirhan D., Can Ö.  
65th ASMS Conference on Mass Spectrometry and Allied Topics, Indiana, United States Of America, 4 - 08 June 2017, pp.186
- X. **Fragmentation Reactions of a<sub>7</sub> Ions from Singly Protonated Model Heptapeptides Containing Glutamine Residue**  
Atik A. E., Yalçın T.  
65th ASMS Conference on Mass Spectrometry and Allied Topics, Indiana, United States Of America, 4 - 08 June 2017, pp.105
- XI. **Applying iTRAQ Proteomics and Systems Biology Approach to Understand the Glycosylated and Sialylated Pathways of CHO Mutants**  
Can Ö., Demirhan D., Atik A. E.  
X Annual Congress of the European Proteomics Association (EuPA), İstanbul, Turkey, 22 - 25 June 2016, pp.25
- XII. **Investigation of Gas Phase Fragmentation Reaction Mechanism of Doubly-Protonated bn (n=7-9) Ions by Mass Spectrometry**  
Atik A. E., Yalçın T.  
64th ASMS Conference on Mass Spectrometry and Allied Topics, Texas, United States Of America, 5 - 09 June 2016, pp.182
- XIII. **Investigation the Extent of in vitro Methylation of Glutamic Acid or Aspartic Acid Containing Model Peptides by Electrospray Ionization-Mass Spectrometry (ESI-MS)**  
Atik A. E., Yalçın T.  
3rd Mediterranean Sea Region Countries Mass Spectrometry Workshop (MEDMS III), Athens, Greece, 28 June - 02 July 2015, pp.64
- XIV. **Effect of Tyrosine Position on the Fragmentation Reactions of b<sub>3</sub> Ions from Model Tripeptides**  
Atik A. E., Yalçın T.  
20th International Mass Spectrometry Conference (IMSC), Geneve, Switzerland, 24 - 29 August 2014, pp.297

- XV. **Infrared Multiple Photon Dissociation (IRMPD) Spectroscopy of b7 Ions from Model Acetylated Peptides**  
Atik A. E., Yalçın T.  
3rd TAC Light Sources (SR & FEL) International Users' Meeting, Ankara, Turkey, 5 - 07 October 2013, pp.11-12
- XVI. **A New Rearrangement Reaction of Peptide b Ions Containing Acetylated Lysine Residue**  
Atik A. E., Yalçın T.  
61st ASMS Conference on Mass Spectrometry and Allied Topics, Minnesota, United States Of America, 9 - 13 June 2013, pp.90
- XVII. **Effects of C-terminal Amide vs Carboxylic Acid Groups on the Dissociation of Deprotonated Model Peptides Containing Acidic Residue**  
Atik A. E., Yalçın T.  
61st ASMS Conference on Mass Spectrometry and Allied Topics, Minnesota, United States Of America, 9 - 13 June 2013, pp.90
- XVIII. **The Role of Lysine ε-Amine Group on the Macrocyclization of b Ions**  
Atik A. E., Yalçın T.  
60th ASMS Conference on Mass Spectrometry and Allied Topics, Vancouver, Canada, 19 - 24 May 2012, pp.119
- XIX. **Characteristic Fragmentation Patterns of b5+ and b4+ Ions from Side Chain Hydroxyl Group Containing Pentapeptides**  
Atik A. E., Görgülü G., Yalçın T.  
IX. Kimyasal Fizik Kongresi, İzmir, Turkey, 14 - 16 October 2010, pp.162
- XX. **Protonlanmış Peptit Türevlerinin Reaksiyon Mekanizmalarının Kütle Spektrometresi ile İncelenmesi**  
Görgülü G., Atik A. E., Yalçın T.  
XXIV. Ulusal Kimya Kongresi, Zonguldak, Turkey, 29 June - 02 July 2010, pp.375
- XXI. **Effect of Acidic Amino Acid on b-Type Sequence Scrambling**  
Atik A. E., Yalçın T.  
58th ASMS Conference on Mass Spectrometry and Allied Topics, Utah, United States Of America, 23 - 27 May 2010, pp.144
- XXII. **Kütle Spektrometresinin Proteomik Çalışmalarındaki Rolü**  
Atik A. E., Karakaya H. Ç., Koç A., Yalçın T.  
XXII. Ulusal Kimya Kongresi, Gazimagusa, Cyprus (Kktc), 6 - 10 October 2008, pp.60
- XXIII. **The Role of V-ATPase Subunit E on Boron Tolerance in Barley**  
Atik A. E., Karakaya H. Ç., Koç A., Yalçın T.  
European Molecular Biology Organization (EMBO) Young Scientist Forum, İstanbul, Turkey, 20 - 22 February 2008, pp.10
- XXIV. **Strese Maruz Bırakılmış Bitkilerde Oluşan Yeni Proteinlerin 2D-Jel ve Kütle Spektrometresi ile Analizleri**  
Atik A. E., Karakaya H. Ç., Salih B., Yalçın T.  
XX. Ulusal Kimya Kongresi, Kayseri, Turkey, 4 - 08 September 2006, pp.13

## Supported Projects

Müftüoğlu M., Kocagöz Z. T., Can Ö., Alpan R. S., Atik A. E., TUBITAK Project, BİYOBENZER VEGF BLOKÖRÜNÜN TÜRKİYE'DE GELİŞTİRİLMESİ, KARAKTERİZASYONU VE PİLOT ÖLÇEK PROSESİNİN GELİŞTİRİLMESİ, 2018 - 2022  
Can Ö., Demirhan D., Atik A. E., EU Supported Other Project, Biyoteknoloji Uygulamalarında Kullanılmak Üzere Özel Sensörlerle Sahip Robot Teknolojilerinin Geliştirilmesi, 2018 - 2022  
Atik A. E., Kocagöz Z. T., Özal İldeniz T. A., Süyen G., Arbak S., Ünubol N., Can Ö., Demirhan D., TUBITAK Project, Doğadan Esinlenerek Antimikrobiyal Peptit ve Benzerlerinin Geliştirilmesi, 2018 - 2021  
Can Ö., ATİK A. E., TUBITAK Project, IgG Yapısındaki Terapötik Monoklonal Antikorun Antijen Bağlanması Özelliklerinin Belirlenmesi için Yüzey Plazmon Rezonans Sistemiyle Validasyonlarının Yapılarak Metot Geliştirilmesi, 2019 - 2020  
Atik A. E., Yalçın T., TÜBİTAK - AB COST Project, Protonlanmış Peptitlerden Elde Edilen a-İyonlarının Gaz-Fazı Parçalanma

Mekanizmalarının İncelenmesi, 2013 - 2015

Atik A. E. , Yalçın T., TUBITAK Project, Peptit Türevlerinin Gaz Fazı Reaksiyon Mekanizmalarının Kütle Spektrometre ile İncelenmesi, 2010 - 2012

## Scientific Refereeing

Journal of the Turkish Chemical Society, Section A: Chemistry, National Scientific Refreed Journal, June 2023

Acıbadem Üniversitesi Sağlık Bilimleri Dergisi, National Scientific Refreed Journal, June 2023

## Metrics

Publication: 35

Citation (WoS): 47

Citation (Scopus): 51

H-Index (WoS): 4

H-Index (Scopus): 4

## Congress and Symposium Activities

6. International Congress on Applied Biological Science, Invited Speaker, Adana, Turkey, 2021

3. International Congress on Analytical and Bioanalytical Chemistry, Invited Speaker, İstanbul, Turkey, 2021

3. National Proteomic Congress, Invited Speaker, İstanbul, Turkey, 2020

22. International Mass Spectrometry Conference (IMSC), Attendee, Florence, Italy, 2018

2. National Proteomic Congress, Attendee, İstanbul, Turkey, 2017

65. ASMS Conference on Mass Spectrometry and Allied Topics, Attendee, Indiana, United States Of America, 2017

X. Annual Congress of the European Proteomics Association , Attendee, İstanbul, Turkey, 2016

64. ASMS Conference on Mass Spectrometry and Allied Topics, Attendee, Texas, United States Of America, 2016

3rd Mediterranean Sea Region Countries Mass Spectrometry Workshop, Attendee, Athens, Greece, 2015

## Awards

Atik A. E., EURIPIDES<sup>2</sup> Innovation Award , Aeneas Management Committee, November 2022

## Non Academic Experience

Company, Turgut Pharmaceuticals, Biotechnology Department

İzmir Yüksek Teknoloji Enstitüsü