

## Assoc. Prof. ESRA BİRBEN

### Personal Information

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### Education Information

Doctorate, Hacettepe Üniversitesi, Fen Bilimleri Enstitüsü, Biyoloji/Moleküler Biyoloji, Turkey 1998 - 2005

Post Graduate, Hacettepe Üniversitesi, Fen Bilimleri Enstitüsü, Biyoloji/Moleküler Biyoloji, Turkey 1995 - 1998

Under Graduate, Hacettepe Üniversitesi, Fen Fakültesi, Biyoloji, Turkey 1991 - 1995

### Foreign Languages

English, C1 Advanced

### Research Areas

Medicine, Health Sciences, Internal Medicine Sciences, Child Health and Diseases, Pediatric Immunology and Allergy

### Academic Titles / Tasks

Associate Professor, Hacettepe University, Fen Fakültesi, Biyoloji Bölümü, 2018 - Continues

Associate Professor, Hacettepe Üniversitesi, Tıp Fakültesi, Çocuk Sağlığı Enstitüsü, 2014 - Continues

Expert, Hacettepe Üniversitesi, Çocuk Sağlığı Enstitüsü, 2007 - Continues

### Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **Infantile atopic dermatitis: Serum vitamin D, zinc and TARC levels and their relationship with disease phenotype and severity**  
ESENBOĞA S., Sahiner N., Birben E., UYSAL SOYER Ö., ŞEKEREL B. E. , ŞAHİNER Ü. M.  
ALLERGOLOGIA ET IMMUNOPATHOLOGIA, vol.49, no.3, pp.162-168, 2021 (Journal Indexed in SCI)
- II. **Co-sensitization to the fruit seeds and raw potato in children with cashew nut allergy**  
Cetinkaya P. G. , BİRBEN E., KAHVECİ M., AKARSU A., Soyer Ö., ŞAHİNER Ü. M. , ŞEKEREL B. E.  
ALLERGY, vol.75, no.9, pp.2366-2369, 2020 (Journal Indexed in SCI)
- III. **Cytokine genes show distinct polymorphism pattern in Hymenoptera venom allergy**  
SİN B. A. , Tutkak H., BİRBEN E., Kose K., MISIRLIGİL Z.  
ALLERGY, vol.74, no.5, pp.1020-1022, 2019 (Journal Indexed in SCI)
- IV. **Genetic associations of the response to inhaled corticosteroids in asthma: a systematic review.**  
Keskin O., Farzan N., BİRBEN E., Akel H., Karaaslan C., Maitland-van der Zee A. H. , Wechsler M. E. , Vijverberg S. J. , Kalayci O.  
Clinical and translational allergy, vol.9, pp.2, 2019 (Journal Indexed in SCI)
- V. **Oxidative stress in asthma: Part of the puzzle**

ŞAHİNER Ü. M. , BİR BEN E., Erzurum S., Sackesen C., Kalayci O.

PEDIATRIC ALLERGY AND IMMUNOLOGY, vol.29, no.8, pp.789-800, 2018 (Journal Indexed in SCI)

- VI. **Genetic associations of the response to inhaled corticosteroids in children during an asthma exacerbation**  
Keskin O., Uluca U., BİR BEN E., Coskun Y., Ozkars M. Y. , Keskin M., Kucukosmanoglu E., KALAYCI O.  
PEDIATRIC ALLERGY AND IMMUNOLOGY, vol.27, no.5, pp.507-513, 2016 (Journal Indexed in SCI)
- VII. **Doublesex and mab-3 related transcription factor 1 (DMRT1) is a sex-specific genetic determinant of childhood-onset asthma and is expressed in testis and macrophages**  
Schieck M., Schouten J. P. , Michel S., Suttner K., Toncheva A. A. , Gaertner V. D. , Illig T., Lipinski S., Franke A., Klintschar M., et al.  
JOURNAL OF ALLERGY AND CLINICAL IMMUNOLOGY, vol.138, no.2, pp.421-431, 2016 (Journal Indexed in SCI)
- VIII. **Low indoleamine 2,3-dioxygenase activity in persistent food allergy in children**  
BUYUKTIRYAKI B., ŞAHİNER Ü. M. , GİRGIN G., BİR BEN E., SOYER O. U. , CAVKAYTAR O., ÇETİN C., YILMAZ E., YAVUZ S. T. , KALAYCI O., et al.  
ALLERGY, vol.71, no.2, pp.258-266, 2016 (Journal Indexed in SCI)
- IX. **Polymorphisms of endotoxin pathway and endotoxin exposure: in vitro IgE synthesis and replication in a birth cohort**  
ŞAHİNER Ü. M. , Semic-Jusufagic A., Curtin J. A. , BİR BEN E., Belgrave D., SACKESEN C., Simpson A., YAVUZ T. S. , AKDIS C. A. , Custovic A., et al.  
ALLERGY, vol.69, no.12, pp.1648-1658, 2014 (Journal Indexed in SCI)
- X. **The Genetic Variants of Thymic Stromal Lymphopoietin Protein in Children with Asthma and Allergic Rhinitis**  
Birben E., Sahiner U., Karaaslan C., Yavuz T., Cosgun E., Kalayci O., Sackesen C.  
INTERNATIONAL ARCHIVES OF ALLERGY AND IMMUNOLOGY, vol.163, no.3, pp.185-192, 2014 (Journal Indexed in SCI)
- XI. **Pepsin levels and oxidative stress markers in exhaled breath condensate of patients with gastroesophageal reflux disease**  
Soyer T., Soyer O. U. , BİR BEN E., Kisa U., KALAYCI O., Cakmak M.  
JOURNAL OF PEDIATRIC SURGERY, vol.48, no.11, pp.2247-2250, 2013 (Journal Indexed in SCI)
- XII. **The role of CD14 gene promoter polymorphism in tuberculosis susceptibility**  
Ayaslioglu E., Kalpaklioglu F., Kavut A. B. , ERTÜRK A., ÇAPAN N., BİR BEN E.  
JOURNAL OF MICROBIOLOGY IMMUNOLOGY AND INFECTION, vol.46, no.3, pp.158-163, 2013 (Journal Indexed in SCI)
- XIII. **Factors that predict the clinical reactivity and tolerance in children with cow's milk allergy**  
YAVUZ S., BÜYÜKTİRYAKI B., ŞAHİNER Ü. M. , BİR BEN E., TUNCER A., YAKARIŞIK S., KARABULUT E., KALAYCI O., Sackesen C.  
ANNALS OF ALLERGY ASTHMA & IMMUNOLOGY, vol.110, no.4, pp.284-289, 2013 (Journal Indexed in SCI)
- XIV. **The role of SCCA1 in asthma related physiological events in the airway epithelium and the effect of promoter variants on asthma and gene function.**  
Karaaslan C., BİR BEN E., KESKİN O., Sahiner U., Sackesen C., KALAYCI O.  
Respiratory medicine, vol.107, no.3, pp.368-79, 2013 (Journal Indexed in SCI)
- XV. **The role of SPINK5 in asthma related physiological events in the airway epithelium**  
BİR BEN E., Sackesen C., TURGUTOĞLU N., Kalayci O.  
RESPIRATORY MEDICINE, vol.106, no.3, pp.349-355, 2012 (Journal Indexed in SCI)
- XVI. **Association Between Tuberculosis and Atopy: Role of the CD14-159C/T Polymorphism**  
Kavut A. B. , Kalpaklioglu F., Birben E., Ayaslioglu E.  
JOURNAL OF INVESTIGATIONAL ALLERGOLOGY AND CLINICAL IMMUNOLOGY, vol.22, no.3, pp.201-207, 2012 (Journal Indexed in SCI)
- XVII. **The effects of an insertion in the 5' UTR of the AMCse on gene expression and pulmonary functions**  
BİR BEN E., SAÇKESEN C., KAZANI S., Tincer G., KARAASLAN İ. Ç. , DURGUNSU B., GÜRSEL İ., Wechsler M. E. , ISRAEL

- E., KALAYCI Ö.  
RESPIRATORY MEDICINE, vol.105, no.8, pp.1160-1169, 2011 (Journal Indexed in SCI)
- XVIII. **The effect of CD14 C159T polymorphism on in vitro IgE synthesis and cytokine production by PBMC from children with asthma**  
Sackesen C., BİR BEN E., Soyer O. U. , ŞAHİNER Ü. M. , Yavuz T. S. , CİVELEK E., KARABULUT E., AKDİŞ M., Akdis C. A. , KALAYCI Ö.  
ALLERGY, vol.66, no.1, pp.48-57, 2011 (Journal Indexed in SCI)
- XIX. **Antiangiogenic response after 70% hepatectomy and its relationship with hepatic regeneration and angiogenesis in rats**  
DOĞRUL A. B. , Colakoglu T., KÖSEMEHMETOĞLU K., BİR BEN E., Yaman E., GEDIKOĞLU G., ABBASOĞLU O.  
SURGERY, vol.147, no.2, pp.288-294, 2010 (Journal Indexed in SCI)
- XX. **Cellular Allergen Stimulation Test with Acetylsalicylic Acid-Lysine Is Not a Useful Test to Discriminate between Asthmatic Patients with and without Acetylsalicylic Acid Sensitivity**  
BAVBEK S., Dursun A. B. , BİR BEN E., Kalayci O., Misirligil Z.  
INTERNATIONAL ARCHIVES OF ALLERGY AND IMMUNOLOGY, vol.149, no.1, pp.58-64, 2009 (Journal Indexed in SCI)
- XXI. **Oxidative stress and its determinants in the airways of children with asthma**  
DUT R., Dizdar E. A. , BİR BEN E., Sackesen C., Soyer O. U. , Besler T., KALAYCI Ö.  
ALLERGY, vol.63, no.12, pp.1605-1609, 2008 (Journal Indexed in SCI)
- XXII. **Effects of pentoxifylline on TNF-alpha production by peripheral blood mononuclear cells in patients with nonalcoholic steatohepatitis**  
Duman D. G. , Ozdemir F., Birben E., KESKİN O., Eksioğlu-Demiralp E., ÇELİKEL C., KALAYCI O., KALAYCI C.  
DIGESTIVE DISEASES AND SCIENCES, vol.52, no.10, pp.2520-2524, 2007 (Journal Indexed in SCI)
- XXIII. **Oxidative stress and genetic and epidemiologic determinants of oxidant injury in childhood asthma.**  
Ercan H., Birben E., Dizdar E. A. , KESKİN O., Karaaslan C., Soyer O. U. , DUT R., Sackesen C., Besler T., KALAYCI O.  
The Journal of allergy and clinical immunology, vol.118, no.5, pp.1097-104, 2006 (Journal Indexed in SCI)
- XXIV. **The effect of CD14-C159T genotypes on the cytokine response to endotoxin by peripheral blood mononuclear cells from asthmatic children**  
Keskin O., Birben E., Sackesen C., Soyer O. U. , Alyamac E., Karaaslan C., Tokol N., Ercan H., Kalayci O.  
ANNALS OF ALLERGY ASTHMA & IMMUNOLOGY, vol.97, no.3, pp.321-328, 2006 (Journal Indexed in SCI)
- XXV. **ALOX5 promoter genotype, asthma severity and LTC4 production by eosinophils**  
KALAYCI Ö., Birben E., Sackesen C., KESKİN Ö., TAHAN F., WECHSLER M. E. , Civelek E., Soyer O., Adalioglu G., TUNCER A., et al.  
ALLERGY, vol.61, no.1, pp.97-103, 2006 (Journal Indexed in SCI)
- XXVI. **The effect of polymorphisms at the CD14 promoter and the TLR4 gene on asthma phenotypes in Turkish children with asthma.**  
Sackesen C., Karaaslan C., KESKİN Ö., TOKOL N., TAHAN F., Civelek E., Soyer O., Adalioglu G., TUNCER A., Birben E., et al.  
Allergy, vol.60, no.12, pp.1485-92, 2005 (Journal Indexed in SCI)
- XXVII. **Role of prostanoid DP receptor variants in susceptibility to asthma**  
OGUMA T., PALMER L. J. , Birben E., SONNA L. A. , ASANO K., LİLLY C.  
NEW ENGLAND JOURNAL OF MEDICINE, vol.351, no.17, pp.1752-1763, 2004 (Journal Indexed in SCI)
- XXVIII. **Role of 90K protein in asthma and TH2-type cytokine expression**  
KALAYCI O., Birben E., TİNARİ N., OGUMA T., IACOBELLİ S., Lilly C. M.  
Annals of Allergy, Asthma and Immunology, vol.93, no.5, pp.485-492, 2004 (Journal Indexed in SCI)
- XXIX. **Monocyte chemoattractant protein-4 core promoter genetic variants influence on YY-1 affinity and plasma levels**  
KALAYCI Ö., BİR BEN E., WU L., OGUMA T., Gravesande K., SUBRAMANIAM V., Sheldon H., SILVERMAN E. S. , LİLLY C.  
AMERICAN JOURNAL OF RESPIRATORY CELL AND MOLECULAR BIOLOGY, vol.29, no.6, pp.750-756, 2003 (Journal Indexed in SCI)
- XXX. **Identification of an inframe deletion and a missense mutation in the factor XIII A gene in two Turkish**

## patients

Birben E., ÖNER C., ÖNER R., ALTAY Ç., Gurgey A.

EUROPEAN JOURNAL OF HAEMATOLOGY, vol.71, no.1, pp.39-43, 2003 (Journal Indexed in SCI)

XXXI. **Mutations in coagulation factor XIII A gene in three Turkish patients: two novel mutations and a known insertion**

Birben E., ÖNER R., ÖNER C., Gumruk F., ALTAY Ç., Gurgey A.

BRITISH JOURNAL OF HAEMATOLOGY, vol.118, no.1, pp.278-281, 2002 (Journal Indexed in SCI)

XXXII. **A safer and relatively shorter method for Southern blot hybridization analysis**

MERGEN H., ACAR C., BİR BEN E., ÖNER R., ÖNER C.

Journal of Biochemical and Biophysical Methods, vol.44, pp.73-76, 2000 (Journal Indexed in SCI)

XXXIII. **Molecular, genetic and epidemiologic studies on selective complete C1q deficiency in Turkey**

BERKEL A. I. , BİR BEN E., ÖNER C., ÖNER R., LOOS M., PETRY F.

Immunobiology, vol.201, pp.347-355, 2000 (Journal Indexed in SCI)

XXXIV. **Molecular analysis of Turkish beta-thalassemia heterozygotes with normal Hb A(2) levels**

Oner R., Birben E., Acar C., Oner C., Kara A., Gumruk F., Gurgey A., Altay C.

HEMOGLOBIN, vol.24, no.3, pp.195-201, 2000 (Journal Indexed in SCI)

XXXV. **Hb H disease with homozygosity for red cell G6PD deficiency in a Turkish female**

Oner C., Oner R., Birben E., Balkan H., Gumruk F., Gurgey A., Altay C.

HEMOGLOBIN, vol.22, no.2, pp.157-160, 1998 (Journal Indexed in SCI)

## Articles Published in Other Journals

I. **Astımda Genetik Faktörler ve Gen-Çevre Etkileşimi**

KARAASLAN İ. Ç. , BİR BEN E., KALAYCI Ö.

Klinik Tıp Pediatri, 2017 (Other Refereed National Journals)

II. **Oxidative Stress and Antioxidant Defense**

BİR BEN E., ŞAHİNER Ü. M. , SAÇKESEN C., Erzurum S., Kalayci O.

WORLD ALLERGY ORGANIZATION JOURNAL, vol.5, pp.9-19, 2012 (Journal Indexed in ESCI)

III. **Oxidative Stress in Asthma**

Sahiner U. M. , Birben E., Erzurum S., Sackesen C., Kalayci O.

WORLD ALLERGY ORGANIZATION JOURNAL, vol.4, pp.151-158, 2011 (Journal Indexed in ESCI)

## Books & Book Chapters

I. **Bileşene Dayalı Tanı**

BİR BEN E.

in: A dan Z ye İnek Sütü Protein Allerjisi, Bülent Şekerel, Editor, Ankamat Matbaacılık, 2016

II. **ALLERJİK HASTALIKLARDA GENETİK FAKTÖRLER VE GEN-ÇEVRE ETKİLEŞİMİ**

BİR BEN E., KARAASLAN İ. Ç. , KALAYCI Ö.

in: ÇOCUKLUK ÇAĞINDA ALLERJİ ASTİM İMMÜNOLJİ, BÜLENT ENİS ŞEKEREL, Editor, ADA BASIN YAYIN, pp.265-275, 2015

## Refereed Congress / Symposium Publications in Proceedings

I. **The effect of SERPINB3 on mucus expression in airway epithelial cells**

Saraç B. E. , Karagüzel D., Bilgic A. H. , Birben E., Kalayci O., Karaaslan İ. Ç.

European-Academy-of-Allergology-and-Clinical-Immunology Digital Congress (EAACI), London, Canada, 6 - 08 June 2020, vol.75, pp.166-167

- II. **Infantile atopic dermatitis: Serum vitamin D, TARC and periostin levels and their relationship with disease phenotype and clinical severity**  
Esenboga S., ÇETİNKAYA G., Sahiner N., BİRBEN E., Soyer Ö., Buyuktiryaki B., ŞEKEREL B. E. , ŞAHİNER Ü. M.  
Congress of the European-Academy-of-Allergy-and-Clinical-Immunology (EAACI), Lisbon, Portugal, 1 - 05 June 2019, vol.74, pp.576-577
- III. **The protease inhibitor profile of the airway epithelial cell lines after Der p1 stimulation**  
AKEL H., Karaguzel D., BİRBEN E., KARAASLAN İ. Ç. , KALAYCI Ö.  
European Academy of Allergy and Clinical Immunology (EAACI) Congress,2018, 26 - 30 May 2018
- IV. **SERPINB3 response to Der p1 stimulation in airway epithelial cell is partially PAR-2 dependent**  
AKEL H., KARAGÜZEL D., BİRBEN E., KALAYCI Ö., KARAASLAN İ. Ç.  
EAACI 2018, 26 - 30 May 2018
- V. **Hereditör Anjiödem Patofizyolojisi ve Genotipleme**  
BİRBEN E.  
XXIV. Ulusal Allerji ve Klinik İmmünoloji Kongresi, Turkey, 18 November - 22 December 2017
- VI. **The effects of allergen derived proteases on airway epithelial cells obtained from asthmatic and healthy individuals and associated mechanisms**  
BİRBEN E., ALTINBULAKLI C., KARAASLAN İ. Ç. , AKAR İ., AKDİŞ D., AKDİŞ A. C. , KALAYCI Ö.  
Congress of the European-Academy-of-Allergy-and-Clinical-Immunology, 17 - 21 June 2017, vol.72, pp.51
- VII. **Role of cytokine gene polymorphisms in hymenoptera venom allergy**  
SİN A. B. , TUTKAK H., BİRBEN E., KÖSE S. K. , MISIRLIGİL Z.  
Congress of the European-Academy-of-Allergy-and-Clinical-Immunology, 17 - 21 June 2017, vol.72, pp.17
- VIII. **Hereditör Anjiödem Tip III ön tanılı hastalarda Faktör XII gen mutasyonları**  
BİRBEN E., KARAKAYA G., ARIK YILMAZ E., BAVBEK S., DURSUN A. B. , ŞAHİNER Ü. M. , ŞEKEREL B. E. , UYSAL SOYER Ö.  
XXIII. Ulusal Allerji ve İmmünoloji Kongresi, Turkey, 8 - 12 October 2016
- IX. **The profile of protease inhibitors produced by the primary bronchial epithelial cells is a function of the epithelial cell source healthy vs asthma and the type of allergen protease**  
KARAASLAN İ. Ç. , BİRBEN E., KALAYCI Ö.  
World Immune Regulation Meeting X, 16 - 19 March 2016
- X. **The effect of allergenic proteases on cytokine expression by bronchial epithelium**  
BİRBEN E., ALTINBULAKLI C., KARAASLAN İ. Ç. , AKDİŞ D., AKDİŞ A. C. , KALAYCI Ö.  
World Immune Regulation Meeting X, 16 - 19 March 2016
- XI. **Allejen Proteazların Hava yolu Epitelinden Salınan Sitokin ve Kemokinler Üzerine Etkileri**  
BİRBEN E., ALTINBUDAKLI C., KARAASLAN İ. Ç. , AKDİŞ D., AKDİŞ C., Kalaycı Ö.  
XXII. Ulusal Allerji ve Klinik İmmünoloji Kongresi, Turkey, 28 November - 02 December 2015
- XII. **Protease allergens are capable of degrading surfactant proteins to varying degrees and this effects can be inhibited with specific protease inhibitors**  
BİRBEN E., KARAASLAN İ. Ç. , Kalaycı Ö.  
EAACI 2015, 6 - 10 June 2015
- XIII. **IRF 3 polymorphisms frequency and relation with the asthma and atopy phenotypes in Turkish population**  
MOSEYYEBİ S., KARAASLAN İ. Ç. , ŞAHİNER Ü. M. , VARDAR N., BİRBEN E., SAÇKESEN C., Kalaycı Ö.  
EAACI 2015, 6 - 10 June 2015
- XIV. **The role of indoleamine 2,3-dioxygenase (IDO) gene polymorphisms and tryptophan/kynurenine pathway in food allergic and tolerant children**  
Buyuktiryaki B., ŞAHİNER Ü. M. , GİRĞİN G., Cavkaytar O., YILMAZ A., YAVUZ S., ÇETİN C., BİRBEN E., BAYDAR T., TUNCER A., et al.  
World Allergy and Asthma Congress of the European-Academy-of-Allergy-and-Clinical-Immunology and World-Allergy-Organization, Milan, Italy, 22 - 26 June 2013, vol.68, pp.7-8
- XV. **Determinants of lipid mediators in the exhaled breath condensate of healthy children**  
Dizdar A. E. , Akca D., Soyer U. O. , Sackesen C., Dut R., YURDAKÖK K., TUNCER A., BİRBEN E., Acar C., Kalaycı O., et al.

29th Congress of the European-Academy-of-Allergy-and-Clinical-Immunology (EAACI), London, Canada, 5 - 09 June 2010, vol.65, pp.516

**XVI. The effect of CD14-C159T genotype on the in vitro IgE synthesis by human peripheral blood mononuclear cells**

UYSAL S., BİRBEN E., Turgutoglu N., Dizdar A. E. , CİVELEK E., KARABULUT E., Sackesen C., Kalayci O.

27th Congress of the European-Academy-of-Allergology-and-Clinical-Immunology, Barcelona, Spain, 7 - 11 June 2008, vol.63, pp.518-519

## Supported Projects

BİRBEN E., BÜYÜKTİRYAKI A. B. , ŞEKEREL B. E. , Project Supported by Higher Education Institutions, MEVSİMSEL VE PERENNİAL ALLERJİK RİNİTLİ VE ASTIMLI HASTALARDA MİRNA EKSPRESYONUNUN KARŞILAŞTIRMALI OLARAK İNCELENMESİ, 2018 - 2020

SOYER T., ÖZÇELİK H. U. , BİRBEN E., TANYEL F. C. , DOĞRU ERSÖZ D., YALÇIN E. E. , UYSAL SOYER Ö., Project Supported by Higher Education Institutions, Özofagus Atrezisi ve trakeoözofageal fistüllü olgularda nefes havasında oksidatif hasar belirteçleri ve solunumsal sorunlarla ilişkisinin incelenmesi, 2019 - 2019

BİRBEN E., Project Supported by Higher Education Institutions, Allerjen kaynaklı proteazların astımlı ve sağlıklı bireylerden elde olunan havayolu epitel hücreleri üzerine olan etki mekanizmaları, 2017 - 2017

GÜR ÇETİNKAYA P., BİRBEN E., ŞEKEREL B. E. , ŞAHİNER Ü. M. , KARAASLAN İ. Ç. , Project Supported by Higher Education Institutions, Kuruyemiş alerjisi olan çocuklarda doğal seyir prognoz ve klinik şiddeti etkileyen faktörler ve kuruyemişler arasındaki çapraz reaksiyonlar, 2016 - 2017

SÖNMEZ H. E. , ÖZEN S., KİPER E. N. , ÖZÇELİK H. U. , BİRBEN E., EMİRALİOĞLU N., TUĞCU G. D. , BATU E. D. , Project Supported by Higher Education Institutions, Çocukluk Çağı Romatizmal Hastalıklarında Akciğer Bulgularının İncelenmesi, 2016 - 2017

BİRBEN E., Project Supported by Higher Education Institutions, RAGE Receptor of AGE Geni Promotorunda Yer Alan 374 TA Değişiminin Astımdaki Enflamasyon Üzerine Etkilerinin Belirlenmesi, 2016 - 2017

DOĞAN C., ÖZTURHAN A. C. , ŞAHİNER Ü. M. , BİRBEN E., UYSAL SOYER Ö., Project Supported by Higher Education Institutions, Phleum pratense L Poleninin Populus L Salix L Chenopodium L Artemisia L Ve Plantago L Polenleri İle Arasındaki Allerjik Çapraz Reaksiyonlarının Belirlenmesi Ve Klinik Bulgularla Korelasyonu, 2015 - 2016

KARAASLAN İ. Ç. , BİRBEN E., Project Supported by Higher Education Institutions, Astımlı Ve Sağlıklı Primer Bronş Epitel Hücrelerinde Der P1 Stimülasyonunun Proteaz İnhibitör Profili Üzerine Etkisinin Belirlenmesi, 2015 - 2016

BİRBEN E., Project Supported by Higher Education Institutions, Alerjen Kaynaklı Proteazların Astımlı Hastalar ve Sağlıklı Bireylerden Elde Olunan Hava Yolu Epiteline Olan Etkilerinin ve Mekanizmaların Karşılaştırmalı İncelenmesi, 2015 - 2016

BİRBEN E., TUBITAK Project, SKuomaz hücre karsinoma antijeni SCCA nın astım patogenezindeki rolünün belirlenmesi, 2005 - 2009

## Citations

Total Citations (WOS):2328

h-index (WOS):15