

What is RaDiChal?

It is an international genetic therapy project competition set out to change the perspective on rare diseases all over the world, and to create a student ecosystem that can produce and improve it.

RaDiChal

Rare Disease Challenge

Our Mission

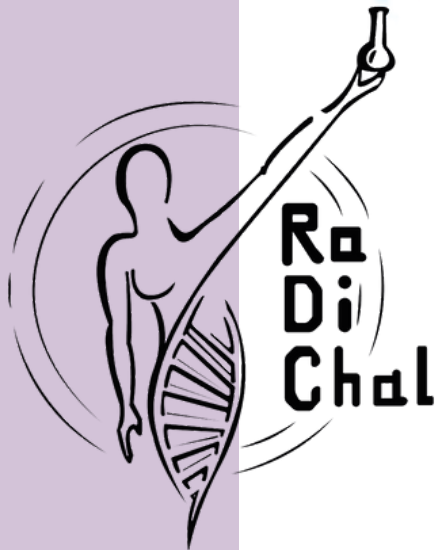
As RadiChal, we set out with the belief that there is a cure for every disease, together with undergraduate, graduate or doctoral students who will design genetic therapies for individuals with rare diseases.

Our Vision

It is our aim to make people realize that they are people of rare beauty, that the word "disease" is not included in people with rare diseases. For this reason, it is our ultimate vision to make genetic treatments widespread in our country with genetic engineering, the most important technology of the 21st century, to develop domestic and value-added gene therapy products, and to create an experienced manpower in this field.

Contact Us!

- @ radichallenge
- ✉ rarediseasechal@gmail.com
- 📍 BrainPark Kuluçka Merkezi



RaDiChal

2023



RaDiChal Academia (RA)

The Classic RaDiChal process is completely online. In this process; Our teams receive theoretical training and can benefit from the consultancy service provided by Cihan Taştan. It can also benefit from the advantages of RaDiChal.

RaDiChal Adventure (RA+)

The process of RaDiChal Adventure proceeds in a hybrid manner. In this process; Our teams receive their theoretical training, can benefit from the consultancy service provided by Cihan Taştan, and will be able to learn the basic molecular techniques they will use in their projects in the RaDiChal laboratory. It can also benefit from the advantages of RaDiChal.





RaDiChal Academia

A total of **8 trainings** will be given, 4 of which are theoretical trainings to be given by Cihan Taştan, and 4 are basic trainings to be given by the Radichal team.

During the competition, each team will have the right to a total of **4 meetings** with Cihan Taştan, where they can detail their projects. Each of these meetings will be held **online** 20 minutes before the semi-final and 45 minutes after the semi-final.

Our competition consists of two stages, **Semi-Final** and **Final**. Teams, in the semi-finals by the **RaDiChal Board of Directors**; In the final, they are evaluated by our **jury members** who are experts in their fields.

The following conditions must be met in order to qualify for the final.

- Submission of all requested documents to the RaDiChal board of directors,
- 10 minutes of presentation, (5 min poster/presentation + 5 min question and answer)
- Getting 50 or more out of 100.

A Certificate of Participation will be given to team members who fail to pass the semi-finals, and **a Certificate of Achievement** to team members who pass.

Theoretical trainings will be delivered to all teams when the competition process starts, basic trainings will be delivered according to the operation of the process. Counseling meetings will be shared and arranged with the teams in the form of a calendar after the competition process begins.

RaDiChal Adventure

A total of **8 trainings** will be given, 4 of which are theoretical trainings to be given by Cihan Taştan, and 4 are basic trainings to be given by the Radichal team. In addition, **practical training** will be given to each team where they can learn the transgenic cell techniques that they will use in their specific projects.

During the competition, each team will have the right to a total of **4 meetings** with Cihan Taştan, where they can detail their projects. Each of these meetings will be held in a **hybrid manner** for 20 minutes before the semi-final and 45 minutes after the semi-final.

Our competition consists of two stages, **Semi-Final** and **Final**. Teams, in the semi-finals by the **RaDiChal Board of Directors**; In the final, they are evaluated by our **jury members** who are experts in their fields.

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All undergraduate, graduate and doctoral students studying in Turkey and abroad can participate.

Teams can consist of a **minimum of 3 and a maximum of 5** members.

Team members can all come together from the same university or from several different universities to form a team.

More than one different team from the same university can participate in the competition.

Former teams or team members of RaDiChal can rejoin.

Each team can participate with only **1 project**.

When registering on the site, please fill in your information completely and appropriately.

Information requested at registration;

- Team name and team logo (When applying, team logos must be added in the dimensions determined by RaDiChal (591x591 and max 2 MB).)
- Team leader's first and last name - contact information
- Name and surname of each team member - name of university and department - contact information - one photograph
- Name of preferred target disease
- Confirmation of the **RaDiChal Agreement** (please read carefully)

In order to complete the registration process, the participation fee must be paid via the iban that will be sent to their e-mail address after registration on the website. Payment description should be as specified below.

- RaDiChal'23 application fee, team name and target disease name (Beta Thalassemia/Huntington/DMD).

RaDiChal Application Fees;

Special for Early Registration RaDiChal Academia: 4.000 Turkish lira, RaDiChal Adventure: 6.000 Turkish lira.

RaDiChal Academia: 5.000 Turkish lira, RaDiChal Adventure: 7.000 Turkish lira after early registration.

Application cancellation **cannot be requested** after the application process is completed.

After registration is complete, the selected target disease **cannot be changed**.

**If your team is not ready,
You can contact us and join our team building whatsapp group.**



1. Preliminary report of the project to be developed during the competition, poster and a video that contains a short presentation of 5 minutes radichal.com this information will be published in a special page on the website for the team and we knew it would be publicly released and by letting them know in advance that we endorse, we promise not to make any claim of this information.
2. As the RadiChal team, we undertake that we will finalize and not change our team name and logo until 01.06.2023.
3. During the RadiChal competition, the training records of the teams participating in the competition can be viewed by the team members for their project development. We accept and declare that the intellectual property rights of the said all materials (protocol, visual, etc.) for practical education training videos, images and other materials belong to the RaDiChal platform, an organization of HiDNA Biotechnology A.Ş., and we will not share the relevant materials with third parties.
4. If it is confirmed that we are in the semi-finals in the RadiChal competition; We undertake to be an active participant in the competition until the end of the competition. We agree to waive the prizes if we withdraw from the Contest.
5. In case of withdrawal from the competition, we accept that 20% will be deducted from the team registration fee and will be deposited to the bank account we have declared within 15 working days, but this fee will not be refunded to us after 01.06.2023.
6. We declare that we know and approve the criteria by which the points we will collect as a team during the RadiChal competition process are evaluated and that only the award results (not the score table) will be announced at the end of the competition.
7. We declare that we will not request an extra meeting other than the determined meeting numbers and times.
8. We declare that we will not record materials such as presentations, videos, and any training and mentoring meetings of the RadiChal competition.
9. I declare that I am aware that the juries in the competition will have access to the materials to evaluate all the details of our project.
10. We declare that we agree that - 5 (minus five) penalty points will be deducted for each delay to be given by the RaDiChal board if the requested documents/documents or materials are not sent on the dates specified by the RadiChal board of directors.

COMPETITION CALENDAR

**RaDiChal 2023
Applications**

**Beginning of RadiChal
2023**

Theoretical training
will be delivered to
each team via the
Udemy website.

Final

Each team will make a 5-
minute presentation.
The champion and other
finalists will be
determined.

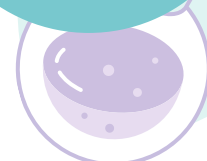
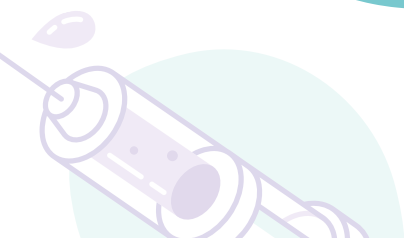


SEMIFINAL

Each team will make a
5-minute presentation.

**RadiChal'23
First Theoretical
Training Exam**

**RadiChal'23
Second
Theoretical
Training Exam**



Beta Talasemi



Buse BARAN



Hasret ARAZ



Beste GELSİN

Huntington



Buket BUDAKLAR



İlayda ÇAVRAR



Cemre Can İNCİ

DMD



Özüm KILIÇ



Hale Ahsen BABAR



CİHAN TAŞTAN

Uskudar University TRGENMER Coordinator
and CEO of HiDNA Biotechnology

RaDiChal'23

Target Diseases

Beta Thalassemia



Beta thalassemia is an autosomal recessive genetic blood disorder caused by more than four hundred mutations in the **Beta Globin (HBB-Hemoglobin Beta Locus)** gene characterized by low functional hemoglobin levels. Hemoglobin is found in red blood cells; it is the red, iron-rich, oxygen-carrying pigment of the blood. A main function of red blood cells is to deliver oxygen throughout the body. Beta thalassemia has three main forms – minor, intermedia and major, which indicate the severity of the disease. Individuals with beta thalassemia minor usually do not have any symptoms (asymptomatic) and individuals often are unaware that they have the condition. Individuals with beta thalassemia major have a severe expression of the disorder; they often require regular blood transfusions and lifelong, ongoing medical care. The symptoms of beta thalassemia intermedia are widely variable and severity falls in the broad range between the two extremes of the major and minor forms. The characteristic finding of beta thalassemia is anemia, which is caused because red blood cells are abnormally small (microcytic), are not produced at the normal amounts, and do not contain enough functional hemoglobin.



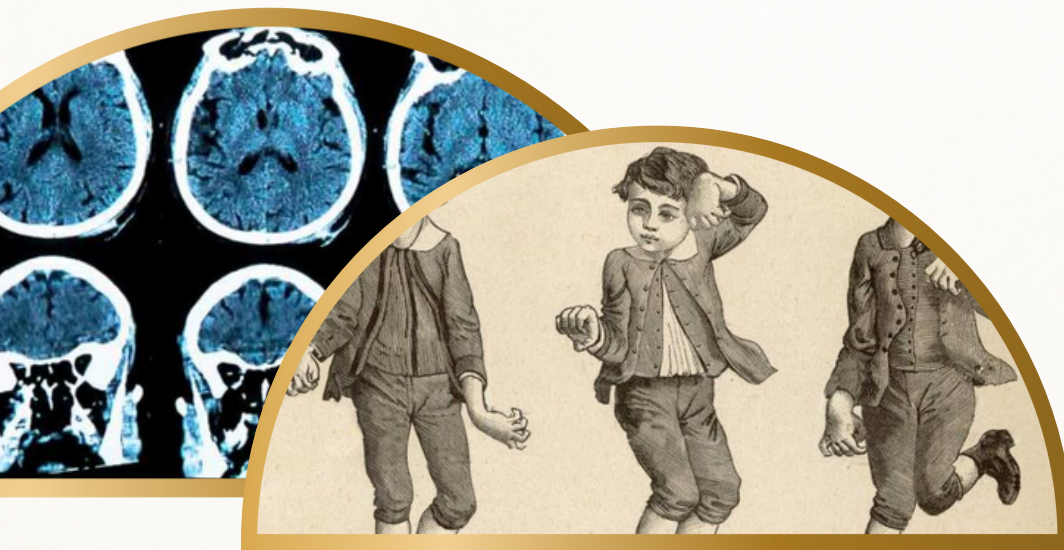
RaDiChal'23

Target Diseases

Huntington



Huntington's disease (HD) is an inherited disorder that causes nerve cells (neurons) in parts of the brain to gradually break down and die. The disease attacks areas of the brain that help to control voluntary (intentional) movement, as well as other areas. People living with HD develop uncontrollable dance-like movements (chorea) and abnormal body postures, as well as problems with behavior, emotion, thinking, and personality. They can get more intense when the person is nervous or distracted; as HD progresses, the person's movements can become more extreme and obvious. Symptoms of HD typically appear in middle-aged people (adult HD). They can also appear in children (juvenile HD), but this is rare. The disease gets worse over time. HD is an inherited disorder. It is passed from parent to child through a mutation (a change) in a particular gene. The disease is caused by a mutation in the gene called **HTT** located on the 4th chromosome. When a parent has HD, each child has a 50 percent chance of inheriting the copy of chromosome 4 that carries the HD mutation. If a child does not inherit the HD mutation, he or she will not develop the disease and cannot pass it on to future generations.



RaDiChal'23

Target Diseases

DMD



Duchenne muscular dystrophy (DMD) affects the muscles, leading to muscle wasting that gets worse over time. DMD occurs primarily in males, though in rare cases may affect females. The symptoms of DMD include progressive weakness and loss (atrophy) of both skeletal and heart muscle. Early signs may include delayed ability to sit, stand, or walk and difficulties learning to speak. Muscle weakness is usually noticeable in early childhood. DMD is caused by genetic changes (DNA variants) in the **dystrophin** gene. Without dystrophin, muscles are not able to function or repair themselves properly. Becker muscular dystrophy, which is less severe than Duchenne, occurs when dystrophin is manufactured, but not in the normal form or amount. DMD is inherited in an X-linked recessive pattern and may occur in people who do not have a family history of DMD. Diagnosis of DMD is based on the symptoms, clinical exam, and the result of a biopsy to remove a small piece of muscle for examination under a microscope. The result of genetic testing may also help confirm the diagnosis. Becker muscular dystrophy (BMD), a milder form of muscular dystrophy, is also caused by genetic changes in the DMD gene.



Did you know these?



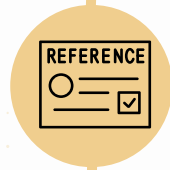
RaDiChal Advantages



You can add your Certificate of Attendance/Achievement to your CV.



You can show it as a Voluntary and/or Compulsory Internship.



RaDiChal You can show it as a reference.
(The reference letter is given to the finalist teams.)



RaDiChal is not just a competition, it allows you to gain a lot of skills.

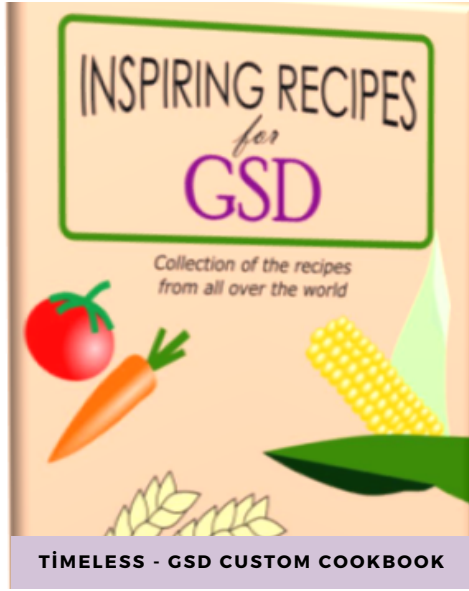
- Literature search
- Ability to write a project
- critical thinking
- Team spirit and much more!



METAGEN - GSD AWARENESS EVENT



5-GEN - SMA AWARENESS RUN



TIMELESS - GSD CUSTOM COOKBOOK



SOSC - INTRODUCING RADİCHAL TO TÜSEB

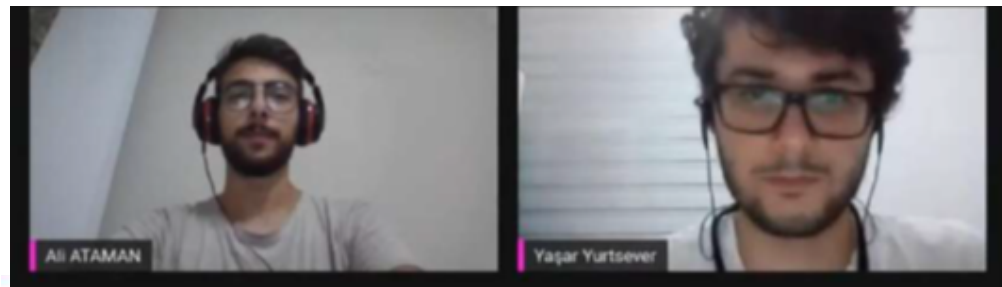
RaDiChal 2020



ABHED - HAND BROCHURE



ATGEN - GSD WORLD MAP



#Nadiredair Friedreich Ataxianın Farkına Var

RAREHOPE- FA YOUTUBE BROADCAST



RADİCHAL MEDICAL INDUSTRY AWARDS OF THE YEAR - SOCIAL RESPONSIBILITY PROJECT OF THE YEAR AWARD

RaDiChal'20 Team Awards



• Kltr University



RaDiChal'20 Champion



SMA Teams 1st



Gold Medal Award



Best Poster Award



Best Presentation Award



Best Social Awareness Award



Best Gene Therapy Training



GSD TEAMS 1st

**İstanbul Teknik
University**

R_xre

Hope



FA TEAMS 1ST

**İstanbul Teknik
University**

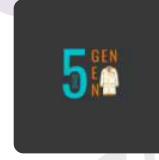
RaDiChal'20 Team Awards

SOCIAL AWARENESS AWARD



Yıldız Teknik Üniversitesi, İnönü Üniversitesi, Uludağ
Üniversitesi, Necmettin Erbakan Üniversitesi

BEST POSTER AWARD



Istanbul Teknik Üniversitesi

BEST PRESENTATION AWARD



Yıldız Teknik Üniversitesi, İnönü Üniversitesi, Uludağ
Üniversitesi, Yozgat Bozok Üniversitesi, Gebze Üniversitesi

BEST EDUCATION AWARD



Yıldız Teknik Üniversitesi, İnönü Üniversitesi, Uludağ
Üniversitesi, Yozgat Bozok Üniversitesi, Trakya Üniversitesi



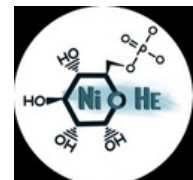
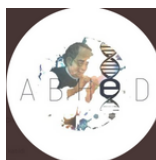
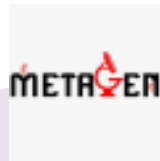
GOLD MEDAL AWARDS



SILVER MEDAL AWARDS



BRONZE MEDAL AWARDS



RaDiChal'20 Achievements

Enes Bal



Sibel Pınar Odabaşı



Gamze Yelgen



- Enes Bal, Sibel P. Odabaşı and Gamze Yelgen, who are members of the 5-GEN team of the **RaDiChal'20 Champion**, are doing their master's degree at Üsküdar University.
- Since the final of the competition, they have completed the first experimental stages with their project budgets.
- Thanks to the support they have received from TÜBİTAK and TÜSEB, they are preparing for animal experiments.
- Patent application processes are ongoing and one article has been published.

Berranur Sert



- Berranur Sert, a member of the **RaDiChal'20** ABHED team, is doing her master's degree at Üsküdar University.
- She is responsible for Üsküdar University TRGENMER laboratory and works from the CART project.
- She has many patents and articles.



SPE'7- TEKNOFEST



FMF16E - BILLBOARD



QUINQUEHELIX- KELEBEĞE DOKUN



7 THERAPY- MOBİL UYGULAMA



KOIOSIS - MİNDERİNİ AL GEL İSTANBUL



RESSESİF 16 - FMF İÇİN PEDAL ÇEVİR



MAY STEAL FOR FMF TELL FOR FMF

GOF TEAM - FMF İÇİN ÇAL FMF İÇİN SÖYLE



FMFORCE - RESİM YARIŞMASI

RaDiChal'21 Team Awards



- Yıldız Teknik University
- İnönü University
- Uludağ University



RaDiChal'21 Champion



KF Teams 1st



Gold Medal Award



Best Poster Award



Best Presentation Award



Best Social Awareness Award



Best Gene Therapy Training



FMF TEAMS 1ST

**Necmettin Erbakan
University**



EB TEAMS 1ST

**İstanbul Teknik
University**

RaDiChal'21 Team Awards

SOCIAL AWARENESS

AWARD



Yıldız Teknik Üniversitesi, İnönü Üniversitesi, Uludağ Üniversitesi, Necmettin Erbakan Üniversitesi

BEST POSTER AWARD



İstanbul Teknik Üniversitesi

BEST PRESENTATION

AWARD



Yıldız Teknik Üniversitesi, İnönü Üniversitesi, Uludağ Üniversitesi, Yozgat Bozok Üniversitesi, Gebze Üniversitesi

BEST EDUCATION AWARD



Yıldız Teknik Üniversitesi, İnönü Üniversitesi, Uludağ Üniversitesi, Yozgat Bozok Üniversitesi, Trakya Üniversitesi



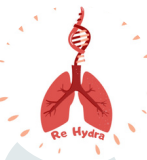
GOLD MEDAL AWARDS



SILVER MEDAL AWARDS



BRONZE MEDAL AWARDS



RaDiChal'21 Achievements



- The team members of the **RaDiChal'21 Champion KOIOSIS** team are continuing their first experimental phase with their project budget.
- Together with team members Doğasav Sümer, Onat Özten and Mert Güngör, they established a new team called Meta-Tip and published an article on 3D Organ.



- The team members of the **RaDiChal'21 Gold medalist Resesif 16** team continue their first experimental phase with the sponsor budget they found.
- In addition, the applications made by the team members within the scope of TÜBİTAK-2209A are supported.



- Beyzanur Akı and İrem Çelik from the **7 Therapy team**, Yağmur Şahin from the **GENO4 team**, and their projects developed during the RaDiChal'21 process are supported by TÜBİTAK-2209A.



ANKA -
NADİR HASTALIKLAR KONFERANSI



CELLULA - OTOBÜS PANOLARI



ALLELIX - SPOTIFY PODCAST



CELLULA -
LGMD FARKINDALIK GÜNÜ ETKİNLİĞİ



RaDiChal 2022



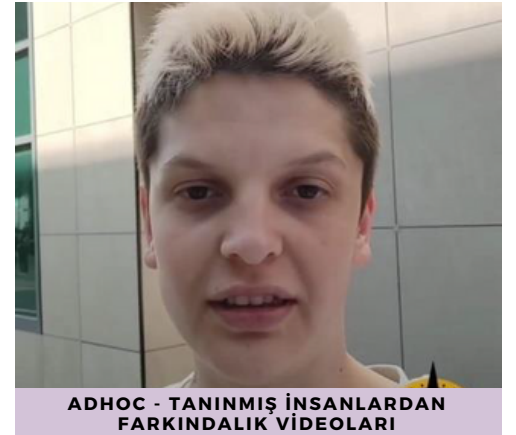
BIOLINGAL - ÜNİVERSİTEDE STANT



ALTHEA - WU İÇİN BOYUYORUZ



GENETOPIA - TVNET CANLI YAYINI



ADHOC - TANINMIŞ İNSANLARDAN
FARKINDALIK VİDEOLARI

RaDiChal'22 Team Awards



- Türk-Alman University
- Üsküdar University



RaDiChal'22 Champion



Wu Teams 1.Si



Gold Medal Award



Best Poster Award



Best Gene Therapy Training



LGMD TEAMS

1ST

**Marmara ve Kadir Has
University**



MS TEAMS 1ST

Üsküdar University

RaDiChal'22 Team Awards

SOCIAL AWARENESS AWARD



Haliç ve İstanbul Medeniyet Üniversitesi

BEST POSTER AWARD



Türk-Alman ve Üsküdar Üniversitesi

BEST PRESENTATION AWARD



Yıldız Teknik ve Üsküdar Üniversitesi

BEST EDUCATION AWARD



Türk-Alman ve Üsküdar Üniversitesi



GOLD MEDAL AWARDS



SILVER MEDAL AWARDS



RaDiChal'22 Achievements



- Our meetings with the team members of the **RaDiChal'21 Champion ALTHEA team** have started, they will start their first experiments with their project budgets in the summer term.



**RADICHAL CEO -
DR.ÖĞR.ÜYESİ CİHAN TAŞTAN**



**ÜSKÜDAR ÜNİ. REKTÖR YARDIMCISI -
PROF.DR.MUHSİN KONUK**

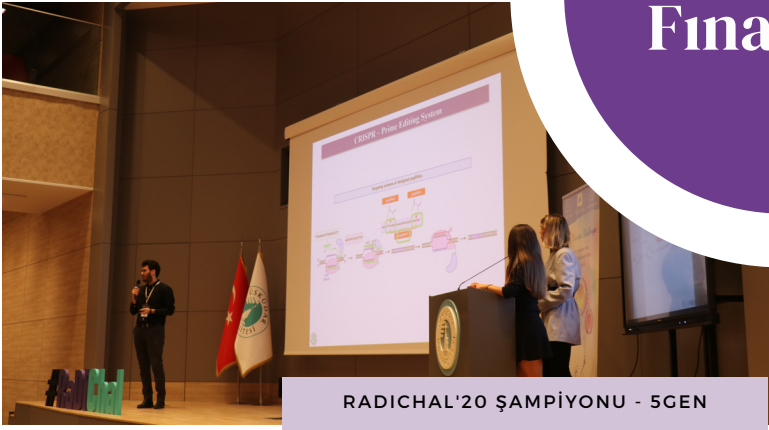


**ÜSKÜDAR ÜNİ. KURUCU REKTÖR -
PROF.DR.NEVZAT TARHAN**



**TÜBİTAK BAŞKANI -
PROF.DR.HASAN MANDAL**

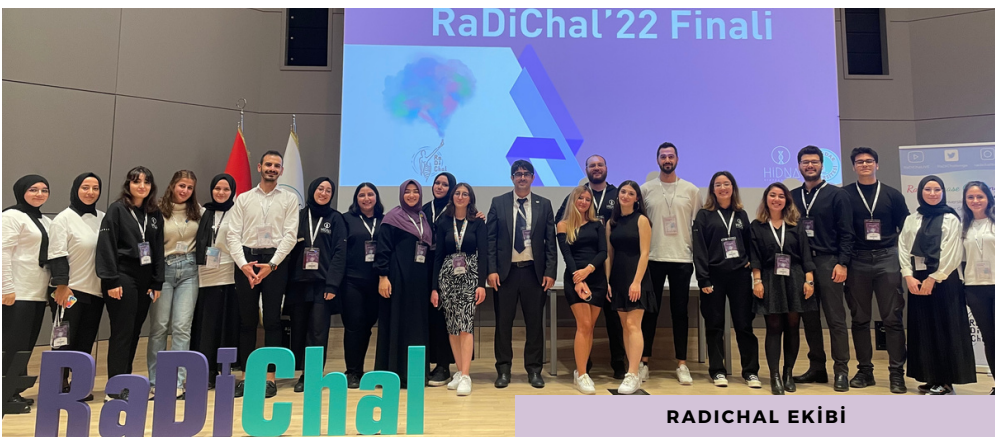
RaDiChal'22 Final Day



RADICHAL'20 ŞAMPİYONU - 5GEN



**KING'S COLLEGE LONDON -
PROF.DR.ADİL MARDİNOĞLU**



RADICHAL EKİBİ



CRISPR VALLEY TANITIMI



**RaDiChal'22
Final Day**



SUPPORT AND SPONSOR

RaDiChal

Sabiha Kevser Olgun



Genscript
Gold Sponsor



A1 Life Science
Ümit Fırat



INTERGEN

Prof.Dr. Serdar Ceylaner
Prof.Dr. Gülay Ceylaner



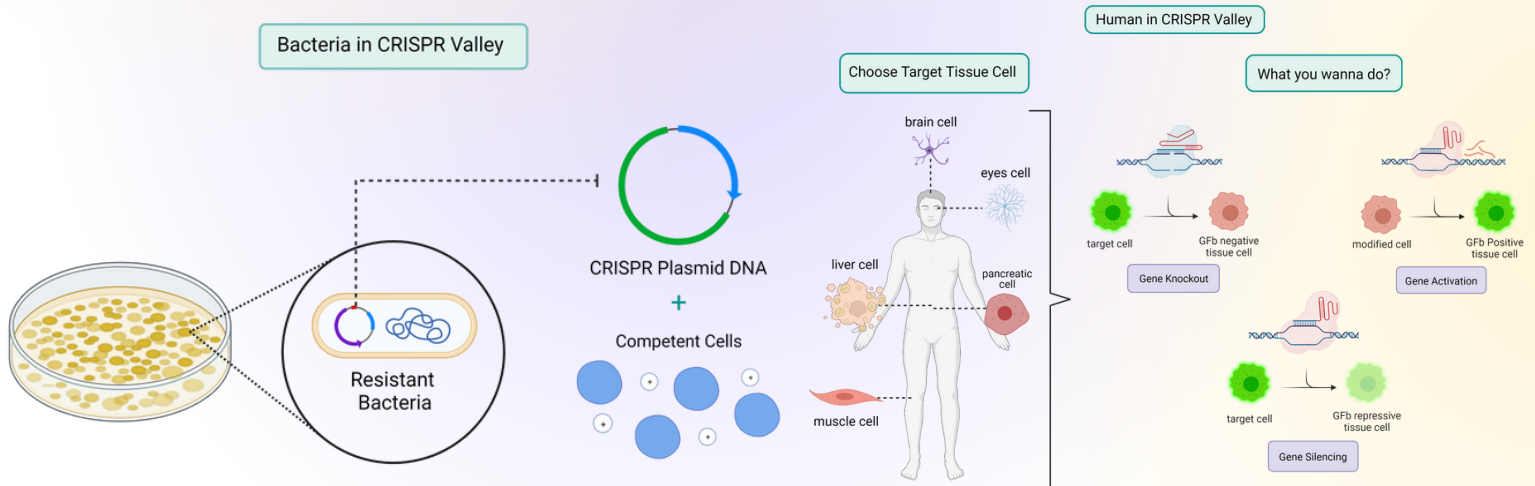
Medical Industry
Awards of the Year –
Social Responsibility
Project of the Year
Award





WHAT IS?

It is a platform where all the popular and widely used CRISPR technology methods and developments are gathered under one roof. At the workshops to be held under the CRISPR VALLEY platform, you can experience a unique CRISPR technology and make changes to bacteria-human DNA very easily.





**FOR APPLICATION;
<https://radichal.com/>**



rarediseasechal@gmail.com



@radichallenge



@RadiChallenge



**RaDiChal- Rare Disease
Challenge**

