Özlem Türeci, MD

PERSONAL INFORMATION

I am a physician, a scientist trained in cancer immunology and a translational oncology specialist with hands-on clinical experience and interdisciplinary competencies. I strive to solve multi-faceted challenges in medicine by translating innovative scientific and technological concepts from bench to clinical practice.

Co-Founder and CMO of BioNTech SE;
Professor for Personalized Medicine, Helmholtz Institute TRON (HI-TRON), JoG University Mainz & DKFZ Heidelberg
Member of the Scientific Management Board, Helmholtz Institute for Translational Oncology (HI-TRON), Mainz
President of the CIMT (Cancer Immunotherapy Association)

Date and place of birth	March 6, 1967 in Siegen, Germany
Nationality	German
Marital status	married, one daughter
Address	Philipp-von-Zabern Platz 1 55116 Mainz/Germany tureci@uni-mainz.de; Oezlem.Tuereci@biontech.de

EDUCATION AND TRAINING

2013 – 2016	**Postgraduate MSc studies**, Regulatory Affairs for Biopharmaceutical Products, EUCRAF/University of Strasbourg, Strasbourg
2002	**Habilitation** in „Molecular Medicine“, University Medical Center, Johannes Gutenberg University (JoGU), Mainz *Identification and molecular, functional and immunological characterization of target antigens for novel high precision immunotherapies*
1993 – 1996	**Postdoctoral research,** Saarland University Medical Center, Homburg *Development of the SEREX program for the serological identification and molecular, functional and immunological characterization of new tumor antigens and tumorigenic products*
1992 – 1994	**Junior residency,** 1st Department of Internal Medicine, Saarland University Medical Center, Homburg (Oncology-Hematology, BMT, HIV & Infectious Disease units)
1989 – 1991	**Doctoral thesis,** Institute of Human Genetics, Saarland University Faculty of Medicine, Homburg *Characterization of human cancers and cell lines by profiling of DNA-minisatellite polymorphisms*
1986 – 1992	**Medical school,** Saarland University Faculty of Medicine, Homburg 1992 State MD exams 1991 Medical thesis, *summa cum laude*

CURRENT POSITIONS & INSTITUTIONAL RESPONSIBILITIES

since 2021 **Professor for Personalized Medicine**, Helmholtz Institute TRON (HI-TRON), JoG University Mainz & DKFZ Heidelberg
since 2018 **Co-Founder and Chief Medical Officer**, BioNTech SE, Mainz
since 2019 **President**, Association for Cancer Immunotherapy CIMT, Mainz
2002 - 2022 **Associate Professor/Lecturer** ("Privatdozent") University Medical Center, Johannes Gutenberg University (JGU), Mainz

PREVIOUS POSITIONS

2009 – 2018 **Co-founder and Chair (Clinical and Scientific Advisory Board)**, BioNTech AG, Mainz
2008 – 2016 **Co-Founder, CEO/CMO**, Ganymed Pharmaceuticals AG, Mainz, acquisition by Astellas in 2016
2001 – 2008 **Co-founder and CSO**, Ganymed Pharmaceuticals AG, Mainz, Germany
2003 – 2008 **Head**, High-Density-Microarray Core Facility, University Medical Center, JoGU, Mainz
2001 – 2004 **Scientific Technical Manager**, European Cancer Immunome Program (EUCIP)
2000 – 2010 **Research Group Leader**, University Medical Center, Johannes Gutenberg University, Mainz
Identification of tumor antigens, development of immunotherapy platforms, including mAbs, RNA vaccines.
1996 – 2000 **Research Group Leader**, Saarland University Medical Center, Homburg
Molecular and immunological profiling of solid cancers, identification of immune therapy targets

RECOGNITIONS & AWARDS

2024
- Cercle d'Economia Award, Spain

2022
- Paul Ehrlich and Ludwig Darmstaedter Prize - Paul Ehrlich Foundation, Germany
- Louis-Jeantet Prize for Translational Medicine - Louis-Jeantet Fondation, Switzerland
- German Immunology Award - Deutsche Gesellschaft für Immunologie, Germany
- Elected Member - German National Academy of Sciences Leopoldina, Germany
- Honorary Doctorate - University of Marburg, School of Medicine, Germany
- Honorary Doctorate - University of Antwerp, Belgium
- Honorary Doctorate - University of Amsterdam, Netherlands
- Werner von Siemens Ring of Honor – Foundation Werner-von-Siemens, Germany
- Meyenburg Prize - Wilhelm und Maria Meyenburg-Stiftung, Germany
- Novo Nordisk Prize - Novo Nordisk Foundation, Denmark
- State order of merit Rhineland-Palatinate - Prime Minister Rhineland-Palatinate, Germany
- Ring of honor - University Medical Center Mainz, Germany
- Honorary Citizen - City of Mainz, Germany

2021
- Knight Commander's Cross of the Order of Merit - Federal Republic of Germany
- William B. Coley Award – Cancer Research Institute, USA
- Medal of Honor - Society of Immunotherapy of Cancer (SITC), USA
- Hall of Fame German Science – Manager Magazine & Merck, Germany

- ITOC8 Lifetime Achievement Award – ITOC Association, Germany
- Elected Member - European Molecular Biology Organization (EMBO), Germany
- Honorary Doctorate - University of Cologne, Germany
- Honorary Doctorate - Bilkent University, Turkey
- German Future Prize – President of the Federal republic of Germany, Germany
- Women of Europe Award - European Movement International, Belgium
- Axel Springer Award – Axel Springer Publishing House, Germany
- Empress Theophano Prize – Empress Theophano Foundation, Greece
- PMWC Luminary Award - Precision Medicine World Conference, USA
- Game Changer Award – Manager Magazin & Bain & Company, Germany
- Karl Heinz Beckurts Prize - Karl Heinz Beckurts- Foundation, Germany
- Princess of Asturias Award/ Category "Scientific Research" - Princess of Asturias Foundation, Spain
- Atlantic Council Distinguished Leadership Award – Atlantic Council, USA
- Eczacıbaşı Medical Award of Honor - Eczacıbaşı Group, Turkey
- EY Honorary Award for Scientific and Social Engagement – EY, Germany
- Aydın Doğan Award - Aydın Doğan Foundation, Turkey
- Academy Award of the State of Rhineland-Palatinate - Academy of Sciences and Literature Mainz, Germany

2020

- The National German Sustainability Award – Foundation German Sustainability Award, Germany
- Financial Times Person of the Year – Financial Times, Great Britain

2005

- Georges Köhler Award - German Society for Immunology (DGFI), Germany

2004

- Heisenberg Scholarship - German Research Foundation (DFG), Germany

1999

- Tenure Scholarship - German Research Foundation (DFG), Germany

1997

- Calogero-Pagliarello-Research Award - Medical Faculty of the University of Saarland, Germany

1995

- Vincenz Czerny Prize - German Society of Hematology and Oncology (DGHO), Germany

TEACHING AND SUPERVISION

1992 – 2001	Lectures and seminars on immunology and biotechnology, Saarland University Faculty of Medicine, Homburg
2004 – 2012	Lectures and seminars at the University Medical Center, JGU, Mainz

SCIENTIFIC MEETINGS (Invited talks, selection)

2021	European Immunology Congress, Society Cancer Immunotherapy, Lancet Invited Seminar, European Research Council Inaugural Seminar, EMBO Members Meeting.
2020	Lectures and Talks @ e.g. **Science Asia, AACR**
2019	Lectures and Talks @ e.g. **CICON, ESMO IO, MAP, ADO, CIMT Winterschool**
2017/18	Program Committee member, e.g. **KNect365 Antibody Engineering & Therapeutics**

	Meeting, 4the CRI-CIMT-EATI-AACR International Cancer Immunotherapy Conference,
>80	Lectures given at international and national scientific conferences and symposia

MEMBERSHIP IN SCIENTIFIC SOCIETIES

National Academy of Sciences Leopoldina
European Molecular Biology Organization
American Society of Clinical Oncology (ASCO)
Max Planck Society
American Association for Cancer Research (AACR)
Association for Cancer Immunotherapy (CIMT)
Cluster of Individualized Immune Intervention (Ci3)
German Society for Immunology (DGfI)
Mainz Research Alliance
German Society for Hematology and Oncology (DGHO)

INNOVATORSHIP

Total number of granted patents worldwide	542
Total number of granted patent families	113
Total number of independent patent families	44

Ranked by *Nature Biotechnology* on the list of the 20 Top Translational Researchers in the years 2015 & 2018

I am an inventor on over 540 granted patents filed across various geographies worldwide. The intellectual property protected by these patents pertains to various areas in the fields of RNA technology, cancer research and immune therapy. Key innovations claimed in these patents include but are not limited to designs of various non-coding elements of mRNA to increase half-life of mRNA and its translation efficiency, delivery technologies for mRNA, mRNA manufacturing processes, ways to administer mRNA, generation of pluripotent stem cells by reprogramming with mRNA, recombinant vaccines and uses thereof, methods for identifying biologically active structures of microbial pathogens, antigen-specific T cell receptors, T cell epitopes, cancer targets for antibody therapy, therapeutic targets for autoimmune diseases such as multiple sclerosis, diagnostic methods. Many of these patents are currently being utilized either by companies I was cofounder of or third parties we have licensed the patents.

The intellectual property protected by these patents pertains to various aspects of mRNA technology, including stabilizing designs of non-coding elements of mRNA, delivery technologies for mRNA, mRNA manufacturing processes. Other portions of this intellectual property include biomarkers and therapeutic targets for immunotherapies and also
cancer entities and biomarkers/targets for autoimmune diseases such as multiple sclerosis. More than a dozen of these patents are currently being utilized either by companies I was cofounder of or third parties we have licensed the patents to with the intention to develop.

KEY SCIENTIFIC CONTRIBUTIONS

In the past 25 years my partner Ugur Sahin and I focussed on novel approaches aiming to exploit the full potential of our immune system to fight cancer and prevent infectious diseases with highest precision. Our research is about understanding the molecular nature of human tumour antigens, development of novel technologies to exploit and redirect adaptive and innate immune effector functions, development of novel classes of highly potent mRNA vaccines against cancer and infectious diseases, monoclonal antibody therapies against novel targets, as well as development of truly individualized cancer immunotherapies.

Our early research focused on cancer antigen discovery utilizing SEREX, genomics and bioinformatics. Our SEREX approach to identify a multitude of novel immunotherapy-relevant human cancer antigens was adopted worldwide (Sahin et al., PNAS 1995, Tureci et al., PNAS 2017). Our target discovery resulted in the identification of a broad range of cancer antigens.

Building on those, we have been developing antigen-specific immune therapies, e.g. mRNA based cancer vaccines, monoclonal antibodies and CAR-T cell therapies (Türeci et al., Ann Oncol, 2019, Türeci et al., Oncoimmunology, 2019) that are currently being evaluated in clinical trials. One of various examples is the novel monoclonal antibody Zolbetuximab against CLDN18.2, a target discovered by us. We have shown in a randomized Phase 2 trial that this antibody near-doubles the survival of patients with highly CLDN18.2-positive, advanced gastric cancer.

In the course of our efforts to develop mRNA cancer vaccines, we systematically optimized mRNA vaccine vectors towards a several log improvement of mRNA translation and stability, and enhanced presentation of the mRNA-encoded antigen on both MHC class I and II molecules on DCs. We discovered local and systemic *in vivo* delivery mechanisms to target RNA to lymphoid resident dendritic cells and achieved induction of strong and unprecedented immune responses (Kranz, Diken et al., Nature 2016, Sahin et. al, Nature 2020). For cancer therapy we pioneered the development of mRNA based personalized neo-antigen vaccines (Kreiter et al., Nature 2015, Sahin et al., Nature 2017). In the infectious disease field our work resulted in the development of an effective COVID-19 mRNA vaccine (Walsh et al., NEJM 2020). Recently, we have extended the use of mRNA vaccines towards in vivo expansion of CAR-T cells (Reinhard et al., Science 2020) and induction of antigen-specific tolerance to treat autoimmune diseases (Krienke et al, Science 2020, accepted). Building on the 2+ decades of research of mRNA as a vaccine technology we developed our COVID19 vaccine BNT162b2 within 11 months. See also document “Contributions to the mRNA vaccine field”.

Further, we believe that it is an inherent responsibility of scientists who claim that their original research can be used to address medical needs and suffering to directly contribute to the process of actualizing the potential of their original research. In this regard, we are committed to develop enabling environments for sustained translation of science. Together with our mentor Christoph Huber and like-minded partners, we have created a public-private partnership hub to realize our vision of translating science into better outcomes for patients. We have co-founded and took active roles in the biotechnology companies BioNTech and Ganymed and the non-for-profit research institute TRON. The latter, together with the German Cancer Research Center (Heidelberg) resulted in foundation of a translational Helmholtz Institute, HI-TRON, to further strengthen patient-centric cancer research and drug development.

PUBLICATIONS (selected)

1. Muik, Alexander, Lu, Gaby, Wallisch Anne-Kathrin, Bacher Karen, Mühl Julia, Reinholz Jonas, Ozhelvaci Orkun, Beckmann Nina, Güimil Garcia Ramon, Poran Asaf, Shpyro Svetlana, Finlayson Andrew, Cai Hui, Yang Qui, Swanson Kena, **Türeci Özlem**, Sahin Ugur. Neutralisation of SARS-Cov-2 Omicron by BNT162b2 elicited sera. ***Science***, 2022,
2. Lang Franziska, Schrörs Barbara, Löwer Martin, **Türeci Özlem**, Sahin Ugur. Identification of neoantigens for individualised cancer immunotherapy. **Nat. Rev. Drug. Discovery**. 2022 (accepted)
3. Beck, Jan D., Reidenbach, Daniel, Salomon, Nadja, Sahin, Ugur, **Türeci, Özlem**, Vormehr, Mathias & Kranz, Lena M. mRNA therapeutics in cancer immunotherapy. ***Mol. Cancer*** **20**, 69 (2021).
4. Walter, Emmanuel B., Talaat, Kawsar R., Sabharwal, Charu, Gurtman, Alejandra, Lockhart, Stephen, Paulsen, Grant C., Barnett, Elizabeth D., Muñoz, Flor M., Maldonado, Yvonne, Pahud, Barbara A., Domachowske, Joseph B., Simões, Eric A. F., Sarwar, Uzma N., Kitchin, Nicholas, Cunliffe, Luke, Rojo, Pablo, Kuchar, Ernest, Rämet, Mika, Munjal, Iona, Perez, John L., Frenck, Robert W., Lagkadinou, Eleni, Swanson, Kena A., Ma, Hua, Xu, Xia, Koury, Kenneth, Mather, Susan, Belanger, Todd J., Cooper, David, **Türeci, Özlem**, Dormitzer, Philip R**.,** Şahin, Uğur, Jansen, Kathrin U. & Gruber, William C. Evaluation of the BNT162b2 Covid-19 Vaccine in Children 5 to 11 Years of Age**.** ***N. Engl. J. Med***. (2021) doi:10.1056/NEJMoa2116298
5. Salomon, Nadja, Selmi, Abderaouf, Grunwitz, Christian, Kong, Anthony, Stanganello, Eliana, Neumaier, Jennifer, Petschenka, Jutta, Diken, Mustafa, Kreiter, Sebastian, **Türeci, Özlem**, Sahin, Ugur & Vascotto, Fulvia. Local radiotherapy and E7 RNA-LPX vaccination show enhanced therapeutic efficacy in preclinical models of HPV16+ cancer. ***Cancer Immunol. Immunother.*** **(**2021) doi:10.1007/S00262-021-03134-9.
6. Muik Alexander, Altintas Isil, Gieseke Friederike, Schoedel Kristina, Burm Saskia, Toker Aras, Salcedo Theodora, Verzijl Dennis, Eisel David, Grunwitz Christian, Kranz Lena, Vormehr Mathias, Satijn David, Diken Mustafa, Kreiter Sebastian, Sasser Kate, Ahmadi Tahamtan, **Türeci Özlem**, Breij Esther, Kunkel Maria, Sahin Ugur. An Fc-inert PD-L1×4-1BB bispecific antibody mediates potent anti-tumor immunity in mice by combining checkpoint inhibition and conditional 4-1BB co-stimulation. ***Oncoimmunology*** (2022, accepted)
7. Falsey, Ann R., Frenck, Robert W., Walsh, Edward E., Kitchin, Nicholas, Absalon, Judith, Gurtman, Alejandra, Lockhart, Stephen, Bailey, Ruth, Swanson, Kena A., Xu, Xia, Koury, Kenneth, Kalina, Warren, Cooper, David, Zou, Jing, Xie, Xuping, Xia, Hongjie, **Türeci, Özlem**, Lagkadinou, Eleni, Tompkins, Kristin R., Shi, Pei-Yong, Jansen, Kathrin U., Şahin, Uğur, Dormitzer, Philip R. & Gruber, William C. SARS-CoV-2 Neutralization with BNT162b2 Vaccine Dose 3. ***N. Engl. J. Med.*** **385**, 1627–1629 (2021).
8. Frenck, Robert W., Klein, Nicola P., Kitchin, Nicholas, Gurtman, Alejandra, Absalon, Judith, Lockhart, Stephen, Perez, John L., Walter, Emmanuel B., Senders, Shelly, Bailey, Ruth, Swanson, Kena A., Ma, Hua, Xu, Xia, Koury, Kenneth, Kalina, Warren V, Cooper, David, Jennings, Timothy, Brandon, Donald M., Thomas, Stephen J., **Türeci, Özlem**, Tresnan, Dina B., Mather, Susan, Dormitzer, Philip R., Şahin, Uğur, Jansen, Kathrin U. & Gruber, William C. Safety, Immunogenicity, and Efficacy of the BNT162b2 Covid-19 Vaccine in Adolescents. ***N. Engl. J. Med.*** **385**, 239–250 (2021).
9. Haranaka, Miwa, Baber, James, Ogama, Yoichiro, Yamaji, Masako, Aizawa, Masakazu, Kogawara, Osamu, Scully, Ingrid, Lagkadinou, Eleni, **Türeci**, Özlem, Şahin, Uğur, Dormitzer, Philip R., Gruber, William C. & Lockhart, Stephen. A randomized study to evaluate safety and immunogenicity of the BNT162b2 COVID-19 vaccine in healthy Japanese adults. ***Nat. Commun.*** **12**, 7105 (2021).
10. Krienke, Christina, Kolb, Laura, Diken, Elif, Streuber, Michael, Kirchhoff, Sarah, Bukur, Thomas, Akilli-Öztürk, **Özlem**, Kranz, Lena M., Berger, Hendrik, Petschenka, Jutta, Diken, Mustafa, Kreiter, Sebastian, Yogev, Nir, Waisman, Ari, Karikó, Katalin, **Türeci, Özlem** & Sahin, Ugur. A noninflammatory mRNA vaccine for treatment of experimental autoimmune encephalomyelitis. ***Science*** **371**, 145–153 (2021).

11. Li, Jingxin, Hui, Aimin, Zhang, Xiang, Yang, Yumei, Tang, Rong, Ye, Huayue, Ji, Ruiru, Lin, Mei, Zhu, Zhongkui, **Türeci, Özlem**, Lagkadinou, Eleni, Jia, Siyue, Pan, Hongxing, Peng, Fuzhong, Ma, Zhilong, Wu, Zhenggang, Guo, Xiling, Shi, Yunfeng, Muik, Alexander, Şahin, Uğur, Zhu, Li & Zhu, Fengcai. Safety and immunogenicity of the SARS-CoV-2 BNT162b1 mRNA vaccine in younger and older Chinese adults: a randomized, placebo-controlled, double-blind phase 1 study. ***Nat. Med.*** **27**, 1062–1070 (2021).

12. Lordick, Florian, Al-Batran, Salah-Eddin, Ganguli, Arijit, Morlock, Robert, Sahin, Ugur & **Türeci, Özlem**. Patient-reported outcomes from the phase II FAST trial of zolbetuximab plus EOX compared to EOX alone as first-line treatment of patients with metastatic CLDN18.2+ gastroesophageal adenocarcinoma. ***Gastric Cancer*** **24**, 721–730 (2021).

13. Muik, Alexander, Wallisch, Ann-Kathrin, Sänger, Bianca, Swanson, Kena A., Mühl, Julia, Chen, Wei, Cai, Hui, Maurus, Daniel, Sarkar, Ritu, **Türeci, Özlem**, Dormitzer, Philip R. & Şahin, Uğur. Neutralization of SARS-CoV-2 lineage B.1.1.7 pseudovirus by BNT162b2 vaccine-elicited human sera. ***Science*** **371**, 1152–1153 (2021).

14. Sahin, U., **Türeci, Ö**., Manikhas, G., Lordick, F., Rusyn, A., Vynnychenko, I., Dudov, A., Bazin, I., Bondarenko, I., Melichar, B., Dhaene, K., Wiechen, K., Huber, C., Maurus, D., Arozullah, A., Park, J. W., Schuler, M. & Al-Batran, S. E. FAST: a randomised phase II study of zolbetuximab (IMAB362) plus EOX versus EOX alone for first-line treatment of advanced CLDN18.2-positive gastric and gastro-oesophageal adenocarcinoma. ***Ann. Oncol. Off. J. Eur. Soc. Med. Oncol.*** **32**, 609–619 (2021).

15. Sahin, Ugur, Muik, Alexander, Vogler, Isabel, Derhovanessian, Evelyna, Kranz, Lena M., Vormehr, Mathias, Quandt, Jasmin, Bidmon, Nicole, Ulges, Alexander, Baum, Alina, Pascal, Kristen E., Maurus, Daniel, Brachtendorf, Sebastian, Lörks, Verena, Sikorski, Julian, Koch, Peter, Hilker, Rolf, Becker, Dirk, Eller, Ann-Kathrin, Grützner, Jan, Tonigold, Manuel, Boesler, Carsten, Rosenbaum, Corinna, Heesen, Ludwig, Kühnle, Marie-Cristine, Poran, Asaf, Dong, Jesse Z., Luxemburger, Ulrich, Kemmer-Brück, Alexandra, Langer, David, Bexon, Martin, Bolte, Stefanie, Palanche, Tania, Schultz, Armin, Baumann, Sybille, Mahiny, Azita J., Boros, Gábor, Reinholz, Jonas, Szabó, Gábor T., Karikó, Katalin, Shi, Pei-Yong, Fontes-Garfias, Camila, Perez, John L., Cutler, Mark, Cooper, David, Kyratsous, Christos A., Dormitzer, Philip R., Jansen, Kathrin U. & **Türeci, Özlem**. BNT162b2 vaccine induces neutralizing antibodies and poly-specific T cells in humans. ***Nature*** **595**, 572–577 (2021).

16. Thomas, Stephen J., Moreira, Edson D., Kitchin, Nicholas, Absalon, Judith, Gurtman, Alejandra, Lockhart, Stephen, Perez, John L., Pérez Marc, Gonzalo, Polack, Fernando P., Zerbini, Cristiano, Bailey, Ruth, Swanson, Kena A., Xu, Xia, Roychoudhury, Satrajit, Koury, Kenneth, Bouguermouh, Salim, Kalina, Warren V, Cooper, David, Frenck, Robert W., Hammitt, Laura L., **Türeci, Özlem**, Nell, Haylene, Schaefer, Axel, Ünal, Serhat, Yang, Qi, Liberator, Paul, Tresnan, Dina B., Mather, Susan, Dormitzer, Philip R., Şahin, Uğur, Gruber, William C. & Jansen, Kathrin U. Safety and Efficacy of the BNT162b2 mRNA Covid-19 Vaccine through 6 Months. ***N. Engl. J. Med.*** **385**, 1761–1773 (2021).

17. **Türeci, Özlem** & Şahin, Uğur. Racing for a SARS-CoV-2 vaccine. ***EMBO Mol. Med.*** **13**, e15145 (2021).

18. Walter, Emmanuel B., Talaat, Kawsar R., Sabharwal, Charu, Gurtman, Alejandra, Lockhart, Stephen, Paulsen, Grant C., Barnett, Elizabeth D., Muñoz, Flor M., Maldonado, Yvonne, Pahud, Barbara A., Domachowske, Joseph B., Simões, Eric A. F., Sarwar, Uzma N., Kitchin, Nicholas, Cunliffe, Luke, Rojo, Pablo, Kuchar, Ernest, Rämet, Mika, Munjal, Iona, Perez, John L., Frenck, Robert W., Lagkadinou, Eleni, Swanson, Kena A., Ma, Hua, Xu, Xia, Koury, Kenneth, Mather, Susan, Belanger, Todd J., Cooper, David, **Türeci, Özlem**, Dormitzer, Philip R., Şahin, Uğur, Jansen, Kathrin U. & Gruber, William C. Evaluation of the BNT162b2 Covid-19 Vaccine in Children 5 to 11 Years of Age. ***N. Engl. J. Med.*** (2021) doi:10.1056/NEJMoa2116298 PM - 34752019.

19. Beissert, Tim, Perkovic, Mario, Vogel, Annette, Erbar, Stephanie, Walzer, Kerstin C., Hempel, Tina, Brill, Silke, Haefner, Erik, Becker, René, **Türeci, Özlem** & Sahin, Ugur. A Trans-amplifying RNA Vaccine Strategy for Induction of Potent Protective Immunity. ***Mol. Ther.*** **28**, 119–128 (2020).

20. Lui, Bonny Gaby, Salomon, Nadja, Wüstehube-Lausch, Joycelyn, Daneschdar, Matin, Schmoldt, Hans-Ulrich, **Türeci, Özlem** & Sahin, Ugur. Targeting the tumor vasculature with engineered cystine-knot miniproteins. ***Nat. Commun.*** **11**, 295 (2020).

21. Mulligan, Mark J., Lyke, Kirsten E., Kitchin, Nicholas, Absalon, Judith, Gurtman, Alejandra, Lockhart, Stephen, Neuzil, Kathleen, Raabe, Vanessa, Bailey, Ruth, Swanson, Kena A., Li, Ping, Koury, Kenneth, Kalina, Warren, Cooper, David, Fontes-Garfias, Camila, Shi, Pei-Yong, **Türeci, Özlem**, Tompkins, Kristin R., Walsh, Edward E., Frenck, Robert, Falsey, Ann R., Dormitzer, Philip R., Gruber, William C., Şahin, Uğur & Jansen, Kathrin U. Phase I/II study of COVID-19 RNA vaccine BNT162b1 in adults. ***Nature*** **586**, 589–593 (2020).
22. Polack, Fernando P., Thomas, Stephen J., Kitchin, Nicholas, Absalon, Judith, Gurtman, Alejandra, Lockhart, Stephen, Perez, John L., Pérez Marc, Gonzalo, Moreira, Edson D., Zerbini, Cristiano, Bailey, Ruth, Swanson, Kena A., Roychoudhury, Satrajit, Koury, Kenneth, Li, Ping, Kalina, Warren V, Cooper, David, Frenck, Robert W., Hammitt, Laura L., **Türeci, Özlem**, Nell, Haylene, Schaefer, Axel, Ünal, Serhat, Tresnan, Dina B., Mather, Susan, Dormitzer, Philip R., Şahin, Uğur, Jansen, Kathrin U. & Gruber, William C. Safety and Efficacy of the BNT162b2 mRNA Covid-19 Vaccine. ***N. Engl. J. Med.*** **383**, 2603–2615 (2020).
23. Reinhard, Katharina, Rengstl, Benjamin, Oehm, Petra, Michel, Kristina, Billmeier, Arne, Hayduk, Nina, Klein, Oliver, Kuna, Kathrin, Ouchan, Yasmina, Wöll, Stefan, Christ, Elmar, Weber, David, Suchan, Martin, Bukur, Thomas, Birtel, Matthias, Jahndel, Veronika, Mroz, Karolina, Hobohm, Kathleen, Kranz, Lena, Diken, Mustafa, Kühlcke, Klaus, **Türeci, Özlem** & Sahin, Ugur. An RNA vaccine drives expansion and efficacy of claudin-CAR-T cells against solid tumors. ***Science*** **367**, 446–453 (2020).
24. Roldán, Diana Barea, Grimmler, Matthias, Hartmann, Christoph, Hubich-Rau, Stefanie, Beißert, Tim, Paret, Claudia, Cagna, Giuseppe, Rohde, Christoph, Wöll, Stefan, Koslowski, Michael, **Türeci, Özlem** & Sahin, Ugur. PLAC1 is essential for FGF7/FGFRIIIb-induced Akt-mediated cancer cell proliferation. ***Oncotarget*** **11**, 1862–1875 (2020).
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26. Sahin, Ugur, Oehm, Petra, Derhovanessian, Evelyna, Jabulowsky, Robert A., Vormehr, Mathias, Gold, Maike, Maurus, Daniel, Schwarck-Kokarakis, Doreen, Kuhn, Andreas N., Omokoko, Tana, Kranz, Lena M., Diken, Mustafa, Kreiter, Sebastian, Haas, Heinrich, Attig, Sebastian, Rae, Richard, Cuk, Katarina, Kemmer-Brück, Alexandra, Breitkreuz, Andrea, Tolliver, Claudia, Caspar, Janina, Quinkhardt, Juliane, Hebich, Lisa, Stein, Malte, Hohberger, Alexander, Vogler, Isabel, Liebig, Inga, Renken, Stephanie, Sikorski, Julian, Leierer, Melanie, Müller, Verena, Mitzel-Rink, Heidrun, Miederer, Matthias, Huber, Christoph, Grabbe, Stephan, Utikal, Jochen, Pinter, Andreas, Kaufmann, Roland, Hassel, Jessica C., Loquai, Carmen & **Türeci, Özlem**. An RNA vaccine drives immunity in checkpoint-inhibitor-treated melanoma. ***Nature*** **585**, 107–112 (2020).
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