

1. Us



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2. Patient Care

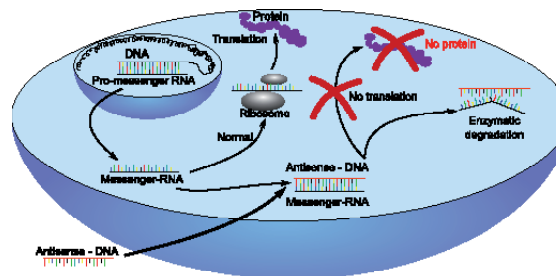
A pharmacological consult service has been established at the Department of Medicine (Medizinische Klinik und Poliklinik IV, Klinikum der Universität München, Campus Innenstadt). In weekly rounds, staff members of the Division visit each out of nine medical wards. Questions on drug mechanisms, side effects and dosages are answered as a written consultation. In the area of pharmacogenetics assaying thiopurinomethyltransferase activity allows to identify patients at risk before initiating therapy with azathioprin. Prof. Endres and Prof. Schnurr, gastroenterologists, run an outpatient clinic focused on inflammatory bowel disease and viral hepatitis. Prof. Rothenfusser runs an out-patient clinic for adult patients with inborn immunodeficiency disorders.

3. Teaching

A lecture series on drug therapy in internal medicine (Arzneimitteltherapie in der Inneren Medizin) is organized each semester. Prof. Endres was course director of the Cardiovascular Course which has been performed twice yearly for each of the 228 medical students in the first clinical semester since winter 1997. This course became part of a reformed curriculum at the Medical Faculty of the University of Munich (Münchner Modell zum Medizinstudium, MeCuM^{LMU}) which has been initiated 2005 in close cooperation with Harvard Medical School.

4. Research

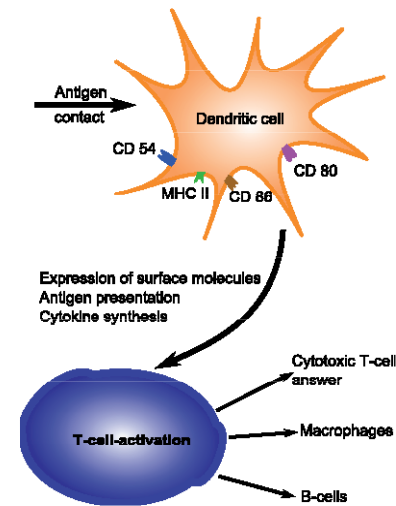
Prof. Endres serves as Dean of Research for the Medical Faculty of the LMU (fourth term 2017 to 2019). The division is speaker of the international doctoral program "i-Target: Immunotargeting of Cancer" (www.elitenetzwerk.bayern.de) awarded by the Elitenetzwerk Bayern and of the doctoral program "Immutrain training network for the immunotherapy of cancer". This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant. Research activities focus on two areas: First, the pharmacological regulation of inflammatory cytokine synthesis. Second, the cytokine- and cell-based therapy of gastrointestinal malignancies.



In the second area - the cytokine- and cell-based therapy of gastrointestinal tumors - an emphasis has been placed on the study and maturation of dendritic cells. An animal model of subcutaneous tumor development following injection of colon carcinoma cells has been established in mice.

5. Grants

BayImmuNet, Bayerisches Immuntherapie-Netzwerk
Bundesministerium für Bildung und Forschung (VIP plus)



Deutsche Forschungsgemeinschaft
Deutsche Krebshilfe
Editors of the Münchner Medizinische Wochenschrift e.V.
Elitenetzwerk Bayern (Doktorandenkolleg i-Target)
Else Kröner-Fresenius-Stiftung
Exzellenzinitiative des Bundes und der Länder
Friedrich Baur-Stiftung
Helmholtz Zentrum München (iMed-Initiative)
Horizon2020 of the EU
Studienstiftung des deutschen Volkes
Industry (4SC, TCR2 Cambridge, USA, Novartis, Basel; Sanofi, Frankfurt)
Melanoma Research Association
Wilhelm Sander Stiftung für Krebsforschung

In 2007 Prof. Endres was awarded an LMU research professorship of the German Excellence Initiative (0.9 Mio Euro) and became principal investigator in the Excellence Cluster Center for Integrated Protein Science Munich (CIPS^M). In 2016 PD Dr. Sebastian Kobold was selected for the career advancement award of the Ernst Jung Stiftung and PD Dr. med. Sebastian Kobold received the Vincenz-Czerny Award 2016 by the German Society for Hematology and Medical Oncology. In 2017 Sebastian Kobold received an ERC-starting grant with his project „ARMOR-T“ (1.6 Mio Euro).

6. Cooperations

Prof. Dr. Carole Bourquin, Universität Genf
Prof. Dr. Charles Dinarello, Department of Infectious Diseases, University of Colorado, Denver, CO
PD Dr. Christian Klein, Glycart, Schlieren, CH
Prof. Dr. Hans-Anton Lehr, Pathology, Friedrichshafen
Prof. Dr. Eugene Maraskovsky, Ludwig Institute for Cancer Research, Melbourne
Dr. Daniel Speiser, Ludwig Institute of Cancer Research, Lausanne
Dr. Claudio Sustmann, Roche AG
Prof. Dr. Ulrich von Andrian, Harvard Medical School
Prof. Dr. Kai W. Wucherpfennig, Dana-Farber Cancer Institute
Department of Cancer Immunology, Boston, USA

7. Original papers

Until 2014 (ten selected)

1. **Endres S**, Ghorbani R, Kelley VE, Georgilis K, Lonnemann G, van der Meer JWM, Cannon JG, Rogers TS, Klemperer MS, Weber PC, Schaefer EJ, Wolff SM, Dinarello CA. **The effect of dietary supplementation with n-3 polyunsaturated fatty acids on the synthesis of interleukin-1 and tumor necrosis factor by mononuclear cells.**
New England Journal of Medicine 1989; 320:265-71 (JIF 51.7)
2. **Hornung V, Guenther-Biller M, Bourquin C, Ablasser A, Schlee M**, Uematsu M, Manoharan M, Akira S, de Fougerolles A, **Endres S, Hartmann G**. **Sequence-specific potent induction of IFN- α by short interfering RNA in plasmacytoid dendritic cells through TLR7.**
Nature Medicine 2005; 11:263-70 (JIF 24.3)
3. **Hornung V, Ellegast J, Kim S**, Krzysztof Brzózka, Jung A, Kato H, **Poeck H**, Akira S, Conzelmann KK, **Schlee M, Endres S, Hartmann G**. **5' triphosphate RNA is the ligand for RIG-I.**
Science 2006; 314:994-7 (JIF 30.0)
4. **Poeck H, Besch R, Maihoefer C**, Renn M, Tormo D, Morskaya SS, Kirschnek S, Gaffal E, Landsberg J, **Hellmuth J, Schmidt A, Anz D, Bscheider M, Schwerdt T**, Berking C, **Bourquin C**, Kalinke U, Kremmer E, Kato H, Akira S, Meyers R, Häcker G, Neuenhahn M, Busch D H, Rothenfusser S, Prinz M, Hornung V, **Endres S**, Tüting T, Hartmann G. **G 5'-triphosphate-siRNA: turning gene silencing and RIG-I activation against melanoma.**
Nature Medicine 2008; 14:1256-63 (JIF 24.3)
5. Gross O, Poeck H, **Bscheider M**, Dostert C, Hanneschläger N, **Endres S**, Tardivel A, Tschopp J, Ruland J. **Syk kinase signaling couples to the Nalp3 inflammasome for anti-fungal host defense.**
Nature 2009; 459:433-6 (JIF 38.6)
6. Besch R, Poeck H, Hohenauer T, Senft D, Häcker G, Berking C, Hornung V, **Endres S**, Ruzicka T, **Rothenfusser S**, Hartmann G. **Proapoptotic signalling by RIG-I and MDA-5 results in tumorspecific apoptosis independent of type I interferons in melanoma.**
Journal of Clinical Investigation 2009; 119:2399-411 (JIF 12.8)
7. Poeck H, **Bscheider M**, Gross O, Finger K, Roth S, Rebsamen M, Hanneschläger N, Schlee M, **Rothenfusser S**, Barchet W, Kato H, Akira S, Inoue S, **Endres S**, Peschel C, Hartmann G, Hornung V, Ruland J. **Recognition of RNA virus by RIG-I results in activation of CARD9 and inflammasome signaling for interleukin 1beta production.**
Nature Immunology 2010; 11:63-9 (JIF 26.2)
8. Dann A, **Poeck H**, Croxford AL, Gaupp S, Kierdorf K, Knust M, Pfeifer D, **Maihoefer C, Endres S**, Kalinke U, Meuth SG, Wiendl H, Knobloch KP, Akira S, Waisman A, Hartmann G, Prinz M. **Cytosolic RIG-I-like helicases act as negative regulators of sterile inflammation in the CNS.**
Nature Neuroscience 2012; 15:98-106 (JIF 15.3)
9. **Heidegger S*, Anz D*, Stephan N, Bohn B**, Herbst T, Fendler WP, **Suhartha N, Sandholzer N, Kobold S, Hotz C**, Eisenacher K, Radtke-Schuller S, **Endres S, Bourquin C**. **Virus-associated activation of innate immunity induces rapid disruption of Peyer's patches in mice.** *diese Autoren leisteten gleichwertigen Beitrag
Blood 2013, 122:2591-9. (JIF 9.1)
10. **Hoffmann F, Schmidt A**, Dittmann Chevilotte M, **Wisskirchen C, Hellmuth JC, Willms S**, Gilmore RH, Glas J, Folwaczny M, Müller T, Berg T, Spengler U, Fitzmaurice K, Kelleher D, Reisch N, Rice CM, **Endres S, Rothenfusser S**. **Polymorphisms in MDA-5 link protein function to clearance of hepatitis C virus.**
Journal of Hepatology 2014; 61:460-70. (JIF 10.4)

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1. **Kobold* S, Grassmann* S, Chaloupka M, Lampert C, Wenk S, Kraus F, Rapp M, Düwell P, Zeng Y, Schmollinger J, Schnurr M, Rothenfußer S #, Endres S #.** **Impact of a new fusion receptor on PD-1-mediated immunosuppression in adoptive T cell therapy.**
The Journal of the National Cancer Institute 2015, 107. (JIF 15.2)
* contributed equally to this study, # share senior authorship
2. **Anz D, Rapp M, Eiber S, Koelzer V, Thaler R, Haubner S, Knott M, Nagel S, Golic M, Wiedemann G, Bauernfeind F, Wurzenberger C, Hornung V, Scholz C, Mayr D, Rothenfusser S, Endres S, Bourquin C.** **Suppression of intratumoral CCL22 by type I interferon inhibits migration of regulatory T cells and blocks cancer progression.**
Cancer Research 2015; 75:4483-93. (JIF 9.3)
3. **Voigt C*, May P*, Gottschlich A*, Markota A, Wenk D, Gerlach I, Voigt S**, Stathopoulos GT, Arendt K, **Heise C, Rataj F**, Janssen KP, Königshoff M, Winter H, Himsl I, Thasler W, **Schnurr M, Rothenfußer S, Endres S, Kobold S.** **Cancer cells induce interleukin-22 production from memory CD4+ T cells via interleukin-1 to promote tumor growth.**
Proceedings of the National Academy of Sciences USA 2017; 14:12994-99 (JIF 9.6)
4. Andrade L, Tay R, Pan D, Luoma A, Ito Y, Badrinath S, Tsoucas D, Franz B, May K, Harvey Ch, **Kobold S**, ..., Dranoff G, Wucherpfennig K. **Antibody-mediated inhibition of MICA and MICB shedding promotes NK-cells-driven tumor immunity.**
Science 2018; 359:1537-1542. (JIF 35.3)
5. Christ A, Günther P, Lauterbach MAR, **Düwell P**, ...Schultze JL, Latz E. **Western diet triggers NLRP3-dependend innate immune reprogramming.**
Cell 2018; 172:162-175. (JIF 30.4)
6. Ardeit MA, ...Meißner M, **Posselt L**, ...Arnold GJ, **König L, Zahler S, Rothenfußer S**, ...Pachmayr J. **Inhibition of cyclin-dependent kinase 5 - a novel strategy to improve sorafenib response in HCC therapy.**
Hepatology 2018; 69:376-393. (JIF 14.1)

2019

1. **Rapp M, Wintergerst M, Kunz W, Vetter V, Knott M, Lisowski D, Haubner S, Moder S, Thaler R, Eiber S**, Meyer B, Röhrle N, Piseddu I, Grassmann S, **Layritz P, Kühnemuth B**, Stutte S, Bourquin C, Andrian U, **Endres S, Anz D**. **CCL22 controls immunity by promoting regulatory T cell communication with dendritic cells in lymph nodes.**
Journal of Experimental Medicine 2019; 216:1170-1181. (JIF 10.8)
2. **Karches C, Benmebarek MR, Schmidbauer M, Kurzay M, Klaus R**, Geiger M, **Rataj F, Cadilha B, Lesch S, Heise C**, Murr R, vom Berg J, Jastroch M, Lamp D, Ding J, **Düwell P**, Niederfellner G, Sustmann C, **Endres S, Klein Ch, Kobold S.** **Bispecific antibodies enable synthetic agonistic receptor-transduced T cells for tumor immunotherapy.**
Clinical Cancer Research 2019; 25:5890-5900. (JIF 10.2)
3. Helms M, Jahn-Hofmann K, Gnerlich F, Metz-Weidmann Ch, Braun M, Diertert G, Scherer P, Grandien K, Theilhaber J, Cao H, Wagenaar T, Schnurr M, **Endres S**, Wiederschain D, Scheidler S, **Rothenfusser S**, Brunner B, **Koenig L.** **Utility of the RIG-I agonist triphosphate RNA for melanoma therapy.**
Molecular Cancer Therapeutics 2019; 18:2343-2356. (JIF 4.9)
4. **Ruzicka M, König L, Formisano S, Boehmer D, Vick B, Heuer EM, Meinel H, Kocheise L, Zeithoefler M, Ahlfeld J, Kobold S, Endres S**, Subklewe M, **Düwell P, Schnurr M**, Jeremias I, Lichtenegger F, **Rothenfusser S.** **RIG-I-based immunotherapy enhances survival in preclinical AML models and sensitizes AML cells to checkpoint blockade.**
Leukemia 2019; in press (JIF 9.9)



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