

## BIOGRAPHICAL SKETCH

NAME <b>Martin PETREK</b>	POSITION TITLE Professor of Immunology		
DEGREE(S) M.D., Ph.D.			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Palacky University Olomouc, Czech Rep.	M.D.	1987	Medicine
Masaryk University Brno, Czech Rep.	Ph.D.	1992	Immunology

### Positions and Honors

1988-2003 Research fellow, Assistant and Assoc.Prof., Dept. Immunology, Palacky University Olomouc, Czechia  
 1993-1996 Research fellow, Interstitial Lung Disease Unit (prof. du Bois), Imperial College London, UK (3 short-term stays of 3 months in 1993, 1994, 1996)  
 2004- Professor, Department of Immunology, Palacky University (PU) Olomouc, Czech Republic  
**2014- Professor and Chair, Department of Pathological Physiology, PU Olomouc, Czech Republic**  
 2010- IMTM, WP1 (Molecular Basis of Disease and Molecular Targets) co-leader  
 2009: Honor of Czech Minister of Schools&Education for scientific accomplishments in respiratory medicine  
 2013: Honorable Member of the Czech Pulmonological (Respiratory) Society

### A. Selected peer-reviewed publications (published and submitted in chronological order).

- Manukyan G, **Petrek M**, Navratilova Z, Margaryan S, Boyajyan A. Transcriptional activity of neutrophils exposed to high doses of colchicine. *J. Biol Regul Homeostat Agents* **2015** (in press). Impact Factor (IF) 2013: 2.406
- Noskovicova N, **Petrek M**, Eickelberg O, Heinzelmann K. PDGF Signaling in the Lung - From Lung Development and Disease to Clinical Studies. *Am J Respir Cell Mol Biol*. **2014** Oct 10. [Epub ahead of print] IF2013: 4.109
- Kishore A, Borucka J, Petrkova J, **Petrek M**. Novel insights into miRNA in lung and heart inflammatory diseases. *Mediators Inflamm*. **2014**; 2014:259131. doi: 10.1155/2014/259131 IF 2012: 3.882
- Ghazaryan H, **Petrek M**, Boyajyan A. Chronic schizophrenia is associated with over-expression of the interleukin-2 receptor gamma gene. *Psychiat Res* **2014** Mar 25; doi: 10.1016/j.psychres.2014.03.020. IF2012: 2.456
- Stahelova A, Petrkova J, **Petrek M**, Mrazek F. Sequence variation in promoter regions of genes for CC chemokine ligands (CCL)19 and 21 in Czech patients with myocardial infarction. *Mol Biol Rep*. **2014** Feb 4. DOI 10.1007/s11033-014-3175-9. [Epub ahead of print] IF 2012: 2.506
- Arakelyan A, Zakharyan R, Hambardzumyan M, Petrkova J, Olsson M Ch, **Petrek M**, Boyajyan A. Functional genetic polymorphisms of monocyte chemoattractant protein 1 and C-C chemokine receptor type-2 in ischemic stroke. *J Interf Cytok Res*. **2014**;34:100-105. doi:10.1089/jir.2013.0030. IF2012: 3.297
- Manukyan G, **Petrek M**, Tomankova T, Martirosyan A, Tatyana M, Navratilova Z, Paulu D, Kriegova E. Colchicine modulates expression of pro-inflammatory genes in neutrophils from patients with familial Mediterranean fever and healthy subjects. *J Biol Regul Homeost Agents*. **2013**;27:329-336. IF 2013: 2.406
- Popa OM, Kriegova E, Popa L, Schneiderova P, Dutescu MI, Bojinca M, Bara C, **Petrek M**. Association study in Romanians confirms IL23A gene haplotype block rs2066808/rs11171806 as conferring risk to psoriatic arthritis. *Cytokine*. **2013**;63:67-73. doi:10.1016/j.cyto.2013.04.013 IF: 2.518.
- Manukyan G, **Petrek M**, Kriegova E, Ghazaryan K, Fillerova R. Activated phenotype of circulating neutrophils in familial Mediterranean fever. *Immunobiology*. **2013**;218:892-898. IF 2012: 2.814
- Hofmann S, Fischer A, Nothnagel M, Jacobs G, Schmid B, Wittig M, Franke A, Gaede KI, Schuermann M, **Petrek M**, Mrazek F, Pabst S, Grohe Ch, Grunewald J, Ronninger M, Eklund A, Rosenstiel P, Hoehne K, Zissel G, Müller-Quernheim J. Genome-wide association analysis reveals 12q13.3 q14.1 as new risk locus for sarcoidosis. *Eur Respir J*. **2013**;41:888-900. IF 2012: 6.355 **Editorial: Spagnolo P, Schwartz DA. Genetic predisposition to sarcoidosis: another brick in the wall. E.R.J. 2013;41:778-80.**
- Fischer A, Schmid B, Ellinghaus D, Nothnagel M, Gaede IK, Schürmann M, Lipinski S, Rosenstiel P, Zissel G, Höhne K, **Petrek M**, Kolek V, Pabst S, Grohé Ch, Grunewald J, Ronninger M, Eklund A, Padyukov L, Gieger Ch, Wichmann H-E, Nebel A, Franke A, Müller-Quernheim J, Hofmann S, Schreiber S. A novel sarcoidosis risk locus for Europeans on chromosome 11q13.1. *Am J Respir Crit Care Med*. **2012**;186:877-885. IF 2012: 11.041

**Editorial:** van Moorsel CH, Christiani DC. **Genetic susceptibility to sarcoidosis, a chronic inflammatory disorder.** *AJRCCM* 2012;186:816-18.

- Navratilova Z, Zatloukal J, Kriegova E, Kolek V, **Petrek M**. Simultaneous up-regulation of matrix metalloproteinases 1, 2, 3, 7, 8, 9 and tissue inhibitors of metalloproteinases 1, 4 in serum of patients with chronic obstructive pulmonary disease. *Respirology*. 2012;17:1006-1012. IF 2012: 2.781

- Stahelova A, Mrazek F, Smizansky M, **Petrek M**, Gallo J. Variation in the *IL1B*, *TNF* and *IL6* genes and individual susceptibility to prosthetic joint infection. *BMC Immunol*. 2012;13:25. IF 2012: 2.610

- Mrazek F, Stahelova A, Kriegova E, Fillerova R, Zurkova M, Kolek V, **Petrek M**. Functional variant *ANXA11* R230C: true marker of protection&candidate disease modifier in sarcoidosis. *Genes Immun*. 2011;12:490-4. IF 3.87

- Kriegova E, Fillerova R, Tomankova T, Hutyrova B, Mrazek F, Tichy T, Kolek V, du Bois RM, **Petrek M**. T-helper type-1 transcription factor T-bet is upregulated in pulmonary sarcoidosis. *Eur Respir J*. 2011;38:1136-44. IF 5.895

- Mrazek F, Gallo J, Stahelova A, **Petrek M**. Functional variants of the *P2RX7* gene, aseptic osteolysis, and revision of the total hip arthroplasty: A preliminary study. *Hum Immunol*. 2010;71:201-205. IF 2.872

- Ambruzova Z, Mrazek F, Raida L, Jindra P, Vidan-Jeras B, Faber E, Pretnar J, Indrak K, **Petrek M**. Association of *IL6* and *CCL2* gene polymorphisms with the outcome of allogeneic haematopoietic stem cell transplantation. *Bone Marrow Transplant*. 2009;44:227-235. IF 2009: 2.998

- Arakelyan A, Kriegova E, Kubistova Z, Mrazek F, Kverka M, du Bois RM, Kolek V, **Petrek M**. Protein levels of CC chemokine ligand (*CCL15*), *CCL16* and macrophage stimulating protein in patients with sarcoidosis. *Clin Exp Immunol*. 2009;155:457-465. IF 2009: 3.009

- Kubistova Z, Mrazek F, Lympany PA, Lagan AL, Arakelyan A, Kriegova E, Welsh KI, Kolek V, Zatloukal J, Hutyrova B, du Bois RM, **Petrek M**. The *CR1* C5507G polymorphism is not involved in susceptibility to idiopathic pulmonary fibrosis in two European populations. *Tissue Antigens*. 2008;72:483-486. IF 2008: 2.076

- Kriegova E, Arakelyan A, Fillerova R, Zatloukal J, Mrazek F, Navratilova Z, Kolek V, du Bois RM, **Petrek M**. *PSMB2* and *RPL32* are suitable denominators to normalize gene expression profiles in bronchoalveolar cells. *BMC Mol Biol*. 2008;9:69. IF 2008: 2.810

- Mrazek F, Kvezereli M, Garr E, Kubistova Z, Kriegova E, Fillerova R, Arakelyan A, Ruven HJT, Drabek J, van den Bosch JMM, Kolek V, Grutters JC, Welsh KI, du Bois RM, **Petrek M**. Complement Receptor 1 single nucleotide polymorphisms in Czech&Dutch Patients with Sarcoidosis. *Tissue Antigens*. 2008;71:77-80. IF: 2.076

- Navratilova Z, Mrazek F, Kriegova E, Hutyrova B, Kolek V, du Bois RM, **Petrek M**. The *MCP-1-2518* (A to G) single nucleotide polymorphism in Czech patients with pulmonary sarcoidosis: association with Löfgren's syndrome. *Sarcoidosis Vasc Diffuse Lung Dis*. 2007;24:33-38. IF 2007: 1.681

- Kriegova E, Melle C, Kolek V, Hutyrova B, Mrazek F, Bleul A, du Bois RM, von Eggeling F, **Petrek M**. Protein profiles of bronchoalveolar lavage fluid from patients with pulmonary sarcoidosis. *Am J Respir Crit Care Med*. 2006;173:1145-1154. IF 2006: 9.091 **Editorial:** Agostini C, Facco M. **The promising future of proteomics in sarcoidosis.** *Am J Respir Crit Care Med*. 2006;173:1053-1054.

- Kriegova E, Tsyrlunyk A, Arakelyan A, Mrazek F, Ordeltova M, Petzmann S, Zatloukal J, Kolek V, du Bois RM, Popper H, **Petrek M**. Expression of *CCXCKR* in pulmonary sarcoidosis. *Inflamm Res*. 2006;55:441-445. IF:1.485  
Mrazek F, Holla L-I, Hutyrova B, Znojil V, Vasku A, Kolek V, Welsh KI, Vacha J, du Bois RM, **Petrek M**. Tumour necrosis factor alpha, lymphotoxin alpha and *HLA-DRB1* gene polymorphisms in Czech patients with sarcoidosis: association with Löfgren syndrome. *Tissue Antigens*. 2005;65:163-71. IF: 2.747

Hutyrova B, Lukac J, Bosak V, Buc M, du Bois R, **Petrek M**. Interleukin 1alpha single-nucleotide polymorphism associated with systemic sclerosis. *J Rheumatol*. 2004;31:81-84. IF 2004: 2.860

Gibejova A, Mrazek F, Subrtova D, Sekerova V, Sztokowska J, Kolek V, du Bois RM, **Petrek M**. Expression of macrophage inflammatory protein-3 beta/*CCL19* in pulmonary sarcoidosis. *Am J Respir Crit Care Med*. 2003;167:1695-1703. IF 2003: 8.876

Barbarin V, **Petrek M**, Kolek V, Van Snick J, Huaux F, Lison D. Characterization of p40 and *IL-10* in the BALF of patients with pulmonary sarcoidosis. *J Interferon Cytokine Res*. 2003;23:449-56. IF:2.120

Mrazek F, Sekerova V, Drabek J, Kolek V, du Bois RM, **Petrek M**. Expression of the chemokine *PARC* mRNA in bronchoalveolar cells of patients with sarcoidosis. *Immunol Lett*. 2002;84:17-22.

Hutyrova B, Pantelidis P, Drabek J, Zurkova M, Kolek V, Lenhart K, Welsh KI, du Bois RM, **Petrek M**. Interleukin-1 Gene Cluster Polymorphisms in Sarcoidosis and Idiopathic Pulmonary Fibrosis. *Am J Respir Crit Care Med*. 2002;165:148-151.

**Petrek M**, Kolek V, Sztokowska J, du Bois RM. CC and C chemokine expression in pulmonary sarcoidosis *Eur Respir J*. 2002;20:1206-1212.

**Petrek M**, Gibejova A, Drabek J, Mrazek F, Kolek V, Weigl E, du Bois RM. CC Chemokine receptor 5 (*CCR5*) mRNA in pulmonary sarcoidosis. *Immunol Lett*. 2002;80:189-193. IF 2002: 1.847

Foley PJ, McGrath DS, Puscinska E, **Petrek M**, Kolek V, Drabek J, Lympany PA, Pantelidis P, Welsh KI, Zielinski J, du Bois RM. Human leukocyte antigen-*DRB1* position 11 residues are a common protective marker for sarcoidosis. *Am J Respir Cell Mol Biol*. 2001;25:272-277.

Hermans C, **Petrek M**, Kolek V, Weynaud B, Pieters T, Lambert M, Bernard A. Serum Clara cell protein (CC16), a marker of the integrity of the air-blood barrier in sarcoidosis. *Eur Respir J*. **2001**;18:507-514.

McGrath DS, Foley PJ, **Petrek M**, Izakovicova-Holla L, Kolek V, Veeraraghavan S, Lympany PA, Pantelidis P, Vasku A, Wells AU, Welsh KI, du Bois RM. ACE gene I/D polymorphism and pulmonary disease severity in UK and Czech sarcoidosis populations. *Am J Respir Crit Care Med*. **2001**;164:197-201.

**Petrek M**, Drabek J, Kolek V, Zlamal J, Welsh KI, Bunce M, Weigl E, du Bois R. CC chemokine receptor gene polymorphisms in Czech patients with pulmonary sarcoidosis. *Am J Respir Crit Care Med*. **2000**;162:1000-03.

**Petrek M**, Pantelidis P, Southcott AM, Lympany P, Safranek P, Black CM, Kolek V, Weigl E, du Bois RM. The source and role of RANTES in interstitial lung disease. *Eur Respir J*. **1997**;10:1207-16. **Editorial: Keane MP, Standiford TJ, Strieter RM. Chemokines are important cytokines in the pathogenesis of interstitial lung disease. Eur Respir J. 1997;10:1199-1202**

**B. Research Support.** List selected **ongoing and pending** research projects (federal and non-federal support). Begin with the projects that are most relevant to the research proposed in this application. Briefly indicate the overall goals of the projects and your role (e.g., PI, Co-Investigator, Consultant) in the research project.

Ongoing (selection):

Title: HLA antibody monitoring after kidney transplantation and its contribution to the prediction of the antibody-mediated allograft rejection risk". 2013-2015. Position: **PI**. Funding Source: Internal Grant Agency of Ministry of Health Czech Republic.

Project code VEGA2013UNIBA. Title: **Immunogenetic determination of inflammation in chronic lung diseases**. Funding period 1.1.2013-31.12.2015. Funding period 2010-2015, Position: member (consultant) of the research team. Funding Source: Slovak Research Council - VEGA

Project code NT11117. Title: **Study of mediators of fibrosation processes in patients with diffuse lung disease**. Funding period 2010-2015, Position: member of the research team FNOL. Funding Source: Internal Grant Agency of Ministry of Health Czech Republic

Title: Selected immunological and immunogenetic parameters in the prediction of graft versus host disease and the outcome of allogeneic haematopoietic stem cell transplantation". 2012-2015. Position: **Co-PI**. Funding Source: Internal Grant Agency of Ministry of Health Czech Republic.

Title: **Systematic identification and modelling of rare and common genetic risk factors for sarcoidis**. Funding period: 1.1.2014-31.12.2016. Position: member (consultant) of the research team. Funding Source: German Research Council - DFG

Completed (selection)

Title: **Expression-profiling of chemokine ligands and receptors in pulmonary sarcoidosis**.

Source: Czech Science Foundation (GACR)

Duration: 2005-2007

Position: PI

Code: 310/05/2614

Title: **Expression profiling of immunological biomarkers in different stages of chronic obstructive pulmonary disease**. 2009-2011. Position: PI. Funding Source: Internal Grant Agency of Ministry of Health Czech Republic.

Title: **GenPhenReSa (Genotype-Phenotype-Relationship in Sarcodosis** (PI Prof. J.Muller-Quernheim, Freiburg), 2009-2012. Position: member (consultant) of the research team. Funding Source: German Research Council - DFG

Title: **Genetic determinants of the pro-/antioxidant balance in the pathogenesis of respiratory diseases.**

Source: Czech Science Foundation

Duration: 2006-2008

Co-PI: Prof. MUDr. Martin Petrek, CSc

Code: 310/06/0827

Title: **Molecular characteristics of chemokine network in diffuse lung diseases and the perspective of their diagnostic usage.**

Source: Internal Grant Agency of Ministry of Health Czech Republic

Duration: 2006-2009

PI: Prof. MUDr. Martin Petrek, CSc

Code: NR9037

Title: Study of genes and molecular mechanisms participating in regulation of haematopoiesis, their clinical significance and applications for targeted therapy.

Source: Czech Ministry of Education, Youth and Sports

Duration: 2005-2011

Co-PI: Prof. MUDr. Martin Petrek, CSc.

Code: MSM61989592015

Title: Polymorphisms of chemokine and chemokine receptor genes in Slavonic patients with myocardial infarction

Source: Ministry of Education, Youth and Sports

Duration: 2006-2010

PI: Prof. MUDr. Martin Petrek, CSc

Code: ME-856

Title: Prediction of osteolysis development in total hip arthroplasty based on examination of SNPs in selected cytokine genes.

Source: Internal Grant Agency of Ministry of Health Czech Republic

Duration: 2007-2009

Co-Pi: Prof. MUDr. Martin Petrek CSc

Code: NR9490

Title: The polymorphisms of cytokine genes in diabetes mellitus type I and myocardial infarction.

Source: Ministry of Education, Youth and Sports - Kontakt

Duration: 2006-2007

PI: Prof. MUDr. Martin Petrek, CSc

Code: CZ-SK 1

Title: Association of selected immunogenetic factors with the haematopoietic stem cell transplantation outcome - prediction of transplant complication risk.

Source: Internal Grant Agency of Ministry of Health Czech Republic

Duration: 2006-2009

PI: Prof. MUDr. Martin Petrek, CSc

Code: NR9099

Title: Chemotactic cytokine MCP-1 and its receptors CCR2 and CCR5 in patients with atherosclerosis of coronary and peripheral arteries.

Source: Internal Grant Agency of Ministry of Health Czech Republic

Duration: 2002-2004

PI: Prof. MUDr. Martin Petrek, CSc

Code: NR7308-3

Title: **Collaboration in genomics of pulmonary disease.**

Source: Aktion Czech-Austrian Research Fund

Duration: 2003-2004

Co-PI: Prof. MUDr. Martin Petrek, CSc

Code: 37p2

Title: **Immunogenetics of inflammatory disease of lung interstitium: VNTR polymorphism of IL-1RA gene in pulmonary fibrosis (idiopathic, secondary).**

Source: Grant Agency of the Czech Republic

Duration: 1999-2002

PI: Prof. MUDr. Martin Petrek, CSc

Code: 310/99/1676

Title: **Utilisation of determination of CC16 protein in serum and lung lavage for assessment of inflammation in interstitial lung disease.**

Source: Internal Grant Agency of Ministry of Health Czech Republic

**Duration: 1999-2002**

PI: Prof. MUDr. Martin Petrek, CSc

Code: NI 5725-2

Title: **Chemoattractants for mononuclear cells (CC chemokines) – mediators of chronic lung inflammatory infiltrate.**

Source: Internal Grant Agency of Ministry of Health Czech Republic

Duration: 1996-2008

PI: Prof. MUDr. Martin Petrek, CSc

Code: NI 3768-3