



## Agata Kubickova

**Nationality:** Czech **Date of birth:** 06/05/1992 **Gender:** Female

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**Work:** Institute of Molecular and Translational Medicine Hněvotínská 1333/5, 77900 Olomouc (Czechia)

### EDUCATION AND TRAINING

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#### Doctoral study in Oncology

*Institute of Molecular and Translational Medicine, Faculty of Medicine Palacky University Olomouc* [ 30/09/2016 – Current ]

Address: Hněvotínská 1333/5, 77900 Olomouc (Czechia)

Website: <https://imtm.cz/>

Thesis: Role of transcription factor c-Myc in proliferation, quiescence, apoptosis and ribosomal biogenesis

#### Masters study in Molecular and cellular biology

*Faculty of Science Palacky University Olomouc* [ 2014 – 2016 ]

Address: 17. listopadu 1192/12, 77900 Olomouc (Czechia)

Website: <https://www.prf.upol.cz/>

Thesis: Biological characterization of novel 2,6,9-substituted purines

#### Bachelor study in Molecular and cellular biology

*Faculty of Science Palacky University Olomouc* [ 2011 – 2014 ]

Address: 17. listopadu 1192/12 <https://www.prf.upol.cz/>, 77900 Olomouc (Czechia)

Thesis: The prognostic impact of RBPMS2 expression in GIST

### WORK EXPERIENCE

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#### Ph.D. student, Research assistant and Teaching assistant

*Institute of Molecular and Translational Medicine, Faculty of Medicine Palacky University Olomouc* [ 30/09/2016 – Current ]

City: Olomouc

Country: Czechia

Molecular and cell biologist focused on the fields of CRISPR-mediated genome editing and transcription regulation, oncology, and hematology. Possessing practical experience with a screening of the biological activities of the small molecules and identification of their molecular targets, lentivirus-mediated gene delivery, methods development, and data analysis.

#### Medical laboratory technician

*Olomouc University Hospital* [ 2019 – 2021 ]

City: Olomouc

Country: Czechia

SARS-CoV-2 diagnostics and work in BSL 3 safety condition.

#### Scientific laboratory technician

*Institute of Experimental Botany AS CR* [ 30/11/2015 – 30/12/2015 ]

City: Olomouc

Country: Czechia

HPLC MS data analysis

## **PUBLICATIONS**

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- 1) Kubickova A, De Sanctis JB, Hajduch M. Isoform-Directed Control of c-Myc Functions: Understanding the Balance from Proliferation to Growth Arrest. Int J Mol Sci. 2023 Dec 15;24(24). IF = 5.6**
- 2) Hodoň J, Frydrych I, Trhlíková Z, Pokorný J, Borková L, Kubíčková A, et al. Triterpenoid pyrazines and pyridines - Synthesis, cytotoxicity, mechanism of action, preparation of prodrugs. Eur J Med Chem. 2022 Dec 5;243:114777. IF = 6.7**
- 3) Annadurai N, Hrubý J, Kubíčková A, Malina L, Hajdúch M, Das V. Time- and dose-dependent seeding tendency of exogenous tau R2 and R3 aggregates in cells. Biochem Biophys Res Commun. 2023 Apr 23;653:102–5. IF = 3.1**
- 4) Kotulova J, Lonova K, Kubickova A, Vrbkova J, Kourilova P, Hajduch M, et al. 2-Cl-IB-MECA regulates the proliferative and drug resistance pathways, and facilitates chemosensitivity in pancreatic and liver cancer cell lines. Int J Mol Med. 2022 Mar;49(3):31. IF = 4.1**
- 5) Macečková Z, Kubíčková A, Sanctis JBD, Hajdúch M. Effect of Glucocorticosteroids in Diamond-Blackfan Anaemia: Maybe Not as Elusive as It Seems. Int J Mol Sci. 2022 Feb 8;23(3). IF = 5.9**
- 6) Kubickova A, Maceckova Z, Vojta P, Ondra M, Volejnikova J, Koralkova P, et al. Missense mutation in RPS7 causes Diamond-Blackfan anemia via alteration of erythrocyte metabolism, protein translation and induction of ribosomal stress. Blood Cells Mol Dis. 2022 Nov;97:102690. IF = 2.4**

## **BOOK CHAPTERS**

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### **Chapter Transient transfection**

Agrawal K, Bouchal J, Das V, Drábek J, Džubák P, Hajdúch M, Koberna K, Ligasová A, Mistrík M, Sanctis JBD, Srovnal J Laboratory techniques in cellular and molecular medicine , 1st edition, Palacký University Olomouc, 2021, ISBN 978-80-244-6049-9

### **Chapter Stable transduction**

Agrawal K, Bouchal J, Das V, Drábek J, Džubák P, Hajdúch M, Koberna K, Ligasová A, Mistrík M, Sanctis JBD, Srovnal J Laboratory techniques in cellular and molecular medicine , 1st edition, Palacký University Olomouc, 2021, ISBN 978-80-244-6049-9

## **PATENTS, UTILITY MODELS & OTHER IP'S**

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**Surface modified particles Ownership: Palacky University Olomouc and Institute of Organic Chemistry and Biochemistry of the Czech Academy of Sciences, Inventors: Cígler P, Guricová M, Hajdúch M, Jaworek H, Kubíčková A, Neburková J, Ondra M**

**1,2-dithiolane compound for metal surface modification Ownership: Palacky University Olomouc and Institute of Organic Chemistry and Biochemistry of the Czech Academy of Sciences, Inventors: Cígler P, Guricová M, Hajdúch M, Kubíčková A**

**Surface modified particles, Priority Appl. PV 2020-535, Patent: CZ 309422. Ownership: Institute of Organic Chemistry and Biochemistry CAS, Palacky University Olomouc; Inventors: Hajdúch Marián, Jaworek Hana, Ondra Martin, Kubíčková Agáta**

## HONOURS AND AWARDS

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### Dean's award 2022

doc. MUDr. Marián Hajdúch, Ph.D., Mgr. Hana Jaworek, Ph.D., Mgr. Agáta Kubičková, Mgr. Martin Ondra - Surface modified particles, Priority Appl. PV 2020-535, Patent: CZ 309422.

## CONFERENCES AND SEMINARS

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### 12 presentations/posters at national conferences and 5 at international conferences of oncology, hematology, and genome editing.

[ 2017 – 2023 ]

- 1) Tracing main c-Myc isoforms endogenous expression for targeted anti-cancer therapies. Czech Annual Cancer Research Meeting, Olomouc, Česká republika, 20.-22.12.2023.
- 2) Tracing c-Myc Endogenous Expression by NanoBiT Technology for Small Molecules Identification. IMTM Reactor, Velké Karlovice, Česká republika, 3.-5.10.2022.
- 3) Tracing c-Myc Endogenous Expression for Small Molecules Discovery. EACR Conference on Cancer Metabolism, Bilbao, Španělsko, 11.-13.10.2022.
- 4) Unique reporter model for c-Myc protein level monitoring under physiological conditions. Czech Annual Cancer Research Meeting, Olomouc, Česká republika, 1.-2.12.2022.
- 5) A new high-throughput screening method for identifying c-Myc inhibitors. Translational Medicine Explained on Translational Research and Medicine Development, Barcelona, Španělsko, 13.-17.2.2023.
- 6) Tracing main c-Myc isoforms endogenous expression for targeted anti-cancer therapies. EACR 2023 Congress, Turín, Itálie, 12.-15.6. 2023.
- 7) Diamond-Blackfan Anemia disease models – development and phenotypization. OL4PERMED, Olomouc, Česká republika, 25-27.11.2021.
- 8) CRISPR/Cas9 technology - creating cellular models for human genetic disorders. IMTM Reactor, Bystřice nad Pernštejnem, Česká republika, 6.-8.10.2021.
- 9) Phenotypic changes caused by novel SNV of RPS7 gene. Interdisciplinary meeting of young life scientists, Milovy, Česká republika, 17.-20.5.2021.
- 10) Kubickova A, Vojta P, Ondra M, Volejnikova J, Maceckova Z, Koralkova P, Saxova Z, Mojzikova R, Cermak J, Horvathova M, Pospisilova D, Hajduch M Phenotypic changes caused by novel SNV of RPS7 gene. 25th European Hematology Association Congress, on-line, 2020.
- 11) CRISPR/Cas9 technology not only a genome editing tool. IMTM Reactor, Bystřice nad Pernštejnem, Česká republika, 7.-9.9.2020.
- 12) CRISPR/Cas9 technology as a tool for the development of Diamond Blackfan Anemia cellular models. The International CRISPR and Gene Editing Symposium, on-line, 23.9.2020.
- 13) SNV in RPS7 causes Diamond Blackfan anemia. IMTM Reactor, Bystřice nad Pernštejnem, Česká republika, 16.9. – 18.9. 2019.
- 14) Modulation of transcription by CRISPR/dCas9 technology. IMTM Reactor, Bystřice nad Pernštejnem, Česká republika, 16.9. – 18.9. 2019.
- 15) Biological role of novel SNV of RPS7 in Diamond Blackfan anemia-model of ribosomal alterations in cancer. XV. DIAGNOSTIC, PREDICTIVE AND EXPERIMENTAL ONCOLOGY DAYS, Olomouc, Česká republika, 25.11. – 27.11. 2019.
- 16) Lentiviral CRISPR libraries for identification and validation of molecular mechanisms of action. IMTM Reactor, Pastviny, Česká republika, 18.9. – 21.9. 2018.
- 17) Development of human c-Myc reporter cell line. IMTM Reactor Ph.D. konference, Pastviny, Česká republika, 14.6. – 16.6. 2017.

## **PEDAGOGICAL ACTIVITY**

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### **Conducting theses and seminars**

[ 2017 – Current ]

1. Supervisor of three bachelor's students.
2. Teacher of subjects:
  - a. KBB / BAKP Bachelor Thesis
  - b. KBB / ZBAKP Introduction to Bachelor Thesis
  - c. OCH / POC Practice in Bioorganic Chemistry

## **PRACTICAL KNOWLEDGE OF LABORATORY METHODS**

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**genetic engineering using CRISPR/Cas9 technology, regulation of gene expression through CRISPR interference at the level of individual genes and the whole genome, preparation of lentiviruses, cloning, development of reporter cell lines**

Write here the description...

**identification of molecular targets of small molecules by high-throughput screening and molecular and cell biology methods, flow cytometry and sorting, confocal microscopy, DNA, RNA and protein analysis**

## **DIGITAL SKILLS**

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Snappgene / FACS Diva / Kaluza / Zeiss ZEN microscope software / Microsoft Word / Microsoft PowerPoint / Microsoft Excel / Microsoft Teams / Microsoft Outlook / Microsoft Office / Google Applikace / Adobe / ImageJ / Columbus / knowledge of database systems, bioinformatics software and web tools / GraphPad Prism. / Dotmatics

## **LANGUAGE SKILLS**

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Mother tongue(s): **Czech**

**Other language(s):**

**English**

**LISTENING C2 READING C2 WRITING C1**

**SPOKEN PRODUCTION C1 SPOKEN INTERACTION C1**

**German**

**LISTENING A2 READING A2 WRITING A2**

**SPOKEN PRODUCTION A2 SPOKEN INTERACTION A2**

*Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user*

## **COURSES**

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**Translational Medicine Explained on Translational Research and Medicine Development, Barcelona, Spain.**

[ 2023 ]

**Multiplex proteins analysis - multiplex ELISA, imuno-PCR, Luminex**

[ 2012 ]