

**Project Proposal: NW25-03-00122**

**PROJECT PROPOSAL**

Part A – Basic Data

**Application for special-purpose costs (hereinafter Project Proposal)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Registration No.** | NW25-03-00122 | | |
| **Starting date** | 5/1/2025 | **Duration (years)** | 4 |
| **Project title in Czech** | Integrace multi-omics a bioinformatických nástrojů pro stanovení rizika relapsu renálního karcinomu a personalizaci adjuvantní onkologické léčby | | |
| **Project title in English** | Integration of multi-omics and bioinformatics tools for renal cell carcinoma recurrence risk prediction and adjuvant cancer treatment personalization | | |
| **Primary panel** | 03 - Malignancy | | |
| **Keywords in Czech** | biomarkery, imunoterapie, personalizovaná medicína, renální karcinom, transkriptomika, proteomika, bioinformatika, genomika, adjuvantní léčba, riziko relapsu | | |
| **Keywords in English** | biomarkers, renal cell carcinoma, transcriptomics, proteomics, bioinformatics, personalised medicine, genomics, immunotharapy, adjuvant treatment, risk of relapse | | |

**Applicant and Proposer**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name and surname** | XXX | **Date of birth** | XXX |
| **ORCID iD** | [0000-0002-4096-7385](https://orcid.org/0000-0002-4096-7385) | | |
| **E-mail** | [XXX](mailto:fialao@fnplzen.cz) | **Phone** | XXX |
| **Institution** | University Hospital Pilsen | | |
| **Address** | Edvarda Beneše 1128/13, 30100 Plzeň-  Bory | **ID No.** | 00669806 |
| **Gender Equality Principles:** University Hospital Pilsen received a certificate of completion of the inspection of equal pay for women and men through the LOGIB tool. In accordance with the instructions of the Ministry of Health of the Czech Republic, an analysis of pay equality was carried out in the hospital for all employees. The result of the inspection for the year 2023 is very favorable for University Hospital Pilsen, the outputs confirmed 94.8% equality of salaries for men and women, which fully meets the criteria required within the public sphere. | | | |

1. **Co-applicant and Co-proposer**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name and surname** | XXX | **Date of birth** | XXX |
| **ORCID iD** | [0000-0002-7118-4113](https://orcid.org/0000-0002-7118-4113) | | |
| **E-mail** | [XXX](mailto:bouchal@chemi.muni.cz) | **Phone** | XXX |
| **Institution** | Masaryk University/Faculty of Science | | |
| **Address** | Žerotínovo náměstí 617/9, 60177 Brno | **ID No.** | 00216224 |
| **Gender Equality Principles:** MU Gender Equality Plan for 2022-2024 - | | | |

[https://www.muni.cz/media/3371580/gender](http://www.muni.cz/media/3371580/gender) equality plan mu gep mu en.pdf

1. **Co-applicant and Co-proposer**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name and surname** | XXX | **Date of birth** | XXX |
| **ORCID iD** | [0000-0003-4698-9195](https://orcid.org/0000-0003-4698-9195) | | |
| **E-mail** | [XXX](mailto:poprach@mou.cz) | **Phone** | XXX |
| **Institution** | Masaryk Memorial Cancer Institute | | |
| **Address** | Žlutý kopec 7, 65653 Brno | **ID No.** | 00209805 |
| **Gender Equality Principles:** We support the principles of gender equality: [https://www.mou.cz/plan-](http://www.mou.cz/plan-) genderove-rovnosti-masarykova-onkologickeho-ustavu-pro-obdobi-2022-az-2025/t1879. | | | |

1. **Co-applicant and Co-proposer**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name and surname** | XXX | **Date of birth** | XXX |
| **ORCID iD** | [0000-0002-0451-4725](https://orcid.org/0000-0002-0451-4725) | | |
| **E-mail** | [XXX](mailto:radka.vaclavikova@szu.cz) | **Phone** | XXX |
| **Institution** | Charles University/Faculty of Medicine in Plzeň | | |
| **Address** | Ovocný trh 560/5, 11636 Praha 1 | **ID No.** | 00216208 |
| **Gender Equality Principles:** According to Equal Opportunities Plan of Charles University, see attached: https://cuni.cz/UK-11530-version1-gep cu en.pdf According to HR Award at Charles University, see attached: https://cuni.cz/UKEN-1964.html Regarding the HR Award, Charles University is undergoing an international evaluation in 2024. If successful, we will retain the certificate going forward. Additionally, the Gender Equality Plan (GEP) is currently being updated. Once it is approved, we will publish the new GEP, which will be valid from 2025 onwards. | | | |

Part A - Abstract

**OECD Classification**

|  |  |
| --- | --- |
| **Scale** | **Title** |
| Main | 30204 - Oncology |
| Minor | 10608 - Biochemistry and molecular biology |
| Further | 20602 - Medical laboratory technology (including laboratory samples analysis; diagnostic technologies) (Biomaterials to be 2.9 [physical characteristics of living material as related to medical implants, devices, sensors]) |

**Sub-goals of the thematic areas of the Program**

|  |  |
| --- | --- |
| **Order** | **The name of the subgoal** |
| 1 | 3.1.1 - High-throughput molecular biology methods and bioinformatics tools for personalized medicine |

**Clinical Evaluation/Clinical Test Statement**

|  |  |
| --- | --- |
| Does the project proposal correspond to the clinical evaluation of drugs according to the provisions of Act No. 378/2007 Coll., on drugs? | **No** |
| The project proposal corresponds to the clinical test of medical devices according to Act. No. 375/2022 Coll., on medical devices and in vitro diagnostic medical devices? | **No** |

**Abstract in Czech**

Renální karcinom (RCC) představuje zhruba 2-3% všech zhoubných nádorů a Česká republika dlouhodobě patří mezi země s nejvyšší incidencí těchto malignit. Základem léčby lokalizovaných stadií RCC (zhruba 80% všech případů) je radikální chirurgický výkon, ale u téměř 20% těchto pacientů dochází následně k relapsu v podobě metastatického rozsevu. Rozvoj onkologické léčby v posledních letech vedl k nástupu protinádorové imunoterapie v podobě tzv. inhibitorů imunitních checkpointů (ICI), které se uplatňují v léčbě metastatického RCC a v poslední době také v léčbě adjuvantní u operovaných pacientů s vysokým rizikem relapsu. Indikace k podání adjuvantní imunoterapie u RCC je v současné době založena pouze na stanovení rizika na základě klinických parametrů. Avšak benefit pacientů z adjuvantní imunoterapie se v některých individuálních případech jeví jako nejistý, přičemž se jedná o léčbu s nezanedbatelným rizikem komplikací, s možnými dlouhodobými následky a navíc finančně vysoce nákladnou. Z toho vyplývá urgentní potřeba nalezení molekulárně definovaných prognostických biomarkerů, které by precizně identifikovaly pacienty s vysokým rizikem relapsu, kteří by mohli z adjuvantní léčby významně profitovat a naopak identifikovat pacienty s nízkým rizikem, kteří by se mohli adjuvantní léčbě vyhnout.

**General project objective in Czech**

Hlavním cílem projektu je pokusit se nalézt efektivní panel prognostických biomarkerů, na základě komplexního pohledu na nádor za využití moderních multi-omics přístupů genomického, transkriptomického a (fosfo)proteomického profilování RCC. V projektu budou sledovány jak genetické, tak (fosfo)proteomické alterace determinující biologické vlastnosti RCC a především riziko relapsu. Využity budou moderní technologie molekulárních analýz jako je sekvenování nové generace, čipové a array technologie a bude vyvinut postup bioinformatického vyhodnocení získaných dat. Díky této komplexní analýze sledovaných faktorů bude možno stanovit průsečíky globálních genetických, a (fosfo)proteomických stanovení vedoucí k identifikaci vysoce potentních prediktivních biomarkerů, respektive jejich efektivní kombinaci. Nalezené

biomarkery bude možné využít k výběru pacientů s vysokým rizikem relapsu v rámci personalizovaného terapeutického přístupu. Takto komplexní přístup využití integrovaných multi-omics nástrojů a bioinformatického vyhodnocení jejich výstupů je unikátní a má velký potenciál i z hlediska obecného poznání biologie solidních nádorů.

**Abstract in English**

Renal cell carcinoma (RCC) represents approximately 2-3% of all cancers and the Czech Republic has long been among the countries with the highest incidence of these malignancies. Radical surgery is the mainstay of treatment for localized stages of RCC (approximately 80% of all cases), but nearly 20-30% of these patients subsequently relapse with metastatic spread. The development of cancer treatment in recent years has led to the emergence of anti-tumor immunotherapy in the form of immune checkpoint inhibitors (ICIs), which have been used in the treatment of metastatic RCC and more recently also in adjuvant therapy in operated patients at high risk of recurrence. At present, the indication for adjuvant immunotherapy in renal cell carcinoma is based solely on a risk assessment based on clinical parameters. However, the benefits of adjuvant immunotherapy appear to be uncertain in some individual cases. Furthermore, it is a treatment with a significant risk of complications, possible long-term effects and high financial costs. Therefore, to identify molecularly defined prognostic biomarkers that can accurately identify patients at high risk of relapse who could benefit significantly from adjuvant immunotherapy, as well as those patients who could be spared from adjuvant treatment.

**General project objective in English**

The main goal of the project is to find a panel of molecular prognostic biomarkers based on a comprehensive molecular picture of the tumor using novel multi-omics approaches integrating genomic, transcriptomic and (phospho)proteomic profiling of RCC. The project will investigate both genetic and (phospho)proteomic alterations determining the biological characteristics of RCC and especially the risk of relapse. Novel molecular analysis technologies including next-generation sequencing, chip and array technologies will be used and a bioinformatics approach will be developed to evaluate the acquired data. This comprehensive analysis of the molecular biomarkers of interest will allow the intersection of global genetic and (phospho)proteomic determinations leading to the identification of highly potent prognostic biomarkers or their effective combination. The biomarkers found could be used to select patients at high risk of relapse as part of a personalized therapeutic approach. Such a comprehensive approach of using integrated multi-omics tools and bioinformatic evaluation of their outputs is unique and has a great potential also in terms of general understanding of solid tumor biology.

Part B - Total funds

**Total eligible costs of the Project from all funding sources (in thousands CZK)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2025** | **2026** | **2027** | **2028** | **Total** |
| Total Provider subsidy of the Project | 2,128 | 3,823 | 3,920 | 3,564 | **13,435** |
| Support from other public sources (domestic and foreign) - non- investment | 0 | 0 | 0 | 0 | **0** |
| Support from other public sources (domestic and foreign) - investment | 0 | 0 | 0 | 0 | **0** |
| Support from non-public sources (own funds, private subsidies)  - non-investment | 0 | 0 | 0 | 0 | **0** |
| Support from non-public sources (own funds, private subsidies)  - investment | 0 | 0 | 0 | 0 | **0** |
| Eligible costs from all funding sources | 2,128 | 3,823 | 3,920 | 3,564 | **13,435** |
| The Support intensity | 100,00 % | | | | |

**Proportion of research and development types in the project**

|  |  |  |
| --- | --- | --- |
|  | **Eligible costs (in thous. CZK)** | **Share of the project** |
| Basic research | 963 | 7.17 % |
| Applied research | 6,259 | 46.59 % |
| Experimental development | 6,213 | 46.24 % |
| **Total** | **13,435** | **100.00 %** |

**Allocation of recognised costs of the Project (in thousands CZK)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2025** | **2026** | **2027** | **2028** | **Total** |
| Other operating costs | 1,147 | 1,906 | 2,032 | 1,693 | **6,778** |
| Investment costs | 0 | 0 | 0 | 0 | **0** |
| Personnel costs | 981 | 1,917 | 1,888 | 1,871 | **6,657** |
| Eligible costs from all funding sources | 2,128 | 3,823 | 3,920 | 3,564 | **13,435** |
| **of which special-purpose costs** | **2,128** | **3,823** | **3,920** | **3,564** | **13,435** |

Proposer - Part B - Total funds

**Applicant:** XXX

**Proposer:** University Hospital Pilsen

**Total eligible costs of the Project from all funding sources (in thousands CZK)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2025** | **2026** | **2027** | **2028** | **Total** |
| Total Provider subsidy of the Project | 258 | 361 | 374 | 286 | **1,279** |
| Support from other public sources (domestic and foreign) - non- investment | 0 | 0 | 0 | 0 | **0** |
| Support from other public sources (domestic and foreign) - investment | 0 | 0 | 0 | 0 | **0** |
| Support from non-public sources (own funds, private subsidies)  - non-investment | 0 | 0 | 0 | 0 | **0** |
| Support from non-public sources (own funds, private subsidies)  - investment | 0 | 0 | 0 | 0 | **0** |
| Eligible costs from all funding sources | 258 | 361 | 374 | 286 | **1,279** |
| The Support intensity | 100,00 % | | | | |

**Total eligible costs of the Project from all funding sources (in thousands CZK)**

|  |  |
| --- | --- |
| Organisation type | Research Organisation |
| I declare that | No cross-border cooperation |
| Research results | Will be publicly disseminated |

**Maximum support intensity**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Eligible costs (in thous. CZK)** | **Share of the project** | **Max. support (in thous. CZK)** | **Max. share of eligible costs** |
| Basic research | 79 | 6.18 % | 79 | 100.00 % |
| Applied research | 1,200 | 93.82 % | 1,200 | 100.00 % |
| Experimental development | 0 | 0.00 % | 0 | 100.00 % |
| **Total** | **1,279** | **100.00 %** | **1,279** | **100.00 %** |

**Allocation of recognised costs of the Project (in thousands CZK)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2025** | **2026** | **2027** | **2028** | **Total** |
| Other operating costs | 38 | 69 | 119 | 56 | **282** |
| Investment costs | 0 | 0 | 0 | 0 | **0** |
| Personnel costs | 220 | 292 | 255 | 230 | **997** |
| Eligible costs from all funding sources | 258 | 361 | 374 | 286 | **1,279** |
| **of which special-purpose costs** | **258** | **361** | **374** | **286** | **1,279** |

Proposer - Part B - Breakdown of Financial Items This part of the proposal is to be filled in with the total estimated eligible costs of the project

(special-purpose costs + co-financing)!

**Other operating costs (in thousands CZK)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2025** | **2026** | **2027** | **2028** | **Total** |
| Material costs | 0 | 15 | 15 | 15 | **45** |
| Travel costs | 0 | 10 | 50 | 0 | **60** |
| Costs of other services | 30 | 30 | 30 | 30 | **120** |
| Overhead costs | 8 | 14 | 24 | 11 | **57** |
| **Total** | **38** | **69** | **119** | **56** | **282** |

**Total personnel costs (in thousands CZK)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2025** | **2026** | **2027** | **2028** | **Total** |
| Wages - Team | 96 | 150 | 156 | 163 | **565** |
| Wages - Others | 0 | 0 | 0 | 0 | **0** |
| Agreements | 90 | 90 | 45 | 10 | **235** |
| Scholarships | 0 | 0 | 0 | 0 | **0** |
| Others | 34 | 52 | 54 | 57 | **197** |
| **Total** | **220** | **292** | **255** | **230** | **997** |

**Personnel costs - Applicant and co-workers (in thousands CZK)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name, surname - job title / description of activities** | **S** | **Year** | **FT share** | **Wage** | **Remuner.** |
| **XXX**  Coordination of the whole project, selection of patients, publication of papers, presentation of results to the scientific community. | N | 2025 | 0.20 | 68 | 0 |
| 2026 | 0.20 | 106 | 0 |
| 2027 | 0.20 | 110 | 0 |
| 2028 | 0.20 | 115 | 0 |
| **Name, surname - job title / description of activities** | **S** | **Year** | **FT share** | **Wage** | **Remuner.** |
| **XXX**  Selecting and preparing patient tissue samples, working with clinical data, publication of papers. | N | 2025 | 0.10 | 28 | 0 |
| 2026 | 0.10 | 44 | 0 |
| 2027 | 0.10 | 46 | 0 |
| 2028 | 0.10 | 48 | 0 |

**Personnel costs - Other personnel costs (in thousands CZK)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name, surname - job title / description of activities** | **S** | **Year** | **Number of hours** | **Amount** |
| **XXX**  Patient selection, working with clinical data. | Y | 2025 | 30 | 15 |
| 2026 | 30 | 15 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | 2027 | 0 | 0 |
| 2028 | 0 | 0 |
| **Name, surname - job title / description of activities** | **S** | **Year** | **Number of hours** | **Amount** |
| **XXX**  Patient selection, working with clinical data. | Y | 2025 | 30 | 15 |
| 2026 | 30 | 15 |
| 2027 | 0 | 0 |
| 2028 | 0 | 0 |
| **Name, surname - job title / description of activities** | **S** | **Year** | **Number of hours** | **Amount** |
| **XXX**  Patient selection, working with clinical data. | Y | 2025 | 30 | 15 |
| 2026 | 30 | 15 |
| 2027 | 0 | 0 |
| 2028 | 0 | 0 |
| **Name, surname - job title / description of activities** | **S** | **Year** | **Number of hours** | **Amount** |
| **XXX**  Preparation and handling of tissue specimens. | N | 2025 | 60 | 15 |
| 2026 | 60 | 15 |
| 2027 | 60 | 15 |
| 2028 | 0 | 0 |
| **Name, surname - job title / description of activities** | **S** | **Year** | **Number of hours** | **Amount** |
| **XXX**  Work with clinical data, publications. | N | 2025 | 60 | 30 |
| 2026 | 60 | 30 |
| 2027 | 60 | 30 |
| 2028 | 20 | 10 |

**Personnel costs - Social and health insurance/Other (in thousands CZK)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Type of cost** | **2025** | **2026** | **2027** | **2028** | **Total** |
| Social and health insurance, social fund | 34 | 52 | 54 | 57 | **197** |

Proposer - Part B - Justification of financial items

**Specification and justification of costs for 2025 Material costs**

They are not required in the first year. In the following years - purchase of scientific literature - 10k CZK, purchase of office supplies - 5k CZK - a total of 15k CZK.

**Travel costs**

Travel expenses will be incurred in the direct context of the project, including working stays and travel in connection with active participation in conferences (congresses). Active presentation of project results at national and international scientific forums after the first year of the project. In the third year, the increase in travel expenses is related to the presentation of results at international congresses.

**Costs of other services**

Publication fees - 30k CZK. In the following years increase related to the payment of registration and publication fees.

**Overhead costs**

Energy consumption, water, sewerage, etc. - 20% of other operating costs - in the first year 8k CZK.

**Personnel costs**

Personnel costs are determined on the basis of the usual salary classification of the employees in the FN Pilsen, including variable components, compensation for rest leave and compensation for temporary disability of the proposer and members of the research team, which will correspond to their work capacity spent on the grant project in each year of the solution. The staff will have the monthly working hours agreed with the FN Pilsen. Statutory levies 34.8% - social and health insurance levies 33.8% + 1% FKSP.

**Investment costs**

They will not be required.

Proposer - Part C - Bibliography

**Applicant:** XXX

**Proposer:** University Hospital Pilsen

**Full bibliographic data regarding the most important results of scientific and research activity as defined in the currently valid Methodology for Evaluating the Results of Research and Development**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Result** | **Code** | **Database** | **Citations** | **IF** |
| 1 | XXX; Czech Renal Cancer Cooperative Group. Outcomes for Patients with Metastatic Renal Cell Carcinoma Achieving a Complete Response on Targeted Therapy: A Registry-based Analysis. Eur Urol, 2016, 70, 3, 469-475. | Jimp | WoS | 32 | 14.976 |
| 2 | XXX. Outcomes According to MSKCC Risk Score with Focus on the Intermediate-Risk Group in Metastatic Renal Cell Carcinoma Patients Treated with First-Line Sunitinib: A Retrospective Analysis of 2390 Patients.  Cancers (Basel). 2020 Mar 27;12(4):808. | Jimp | WoS | 8 | 6.126 |
| 3 | XXX. Use of concomitant proton pump inhibitors, statins or metformin in patients treated with pembrolizumab for metastatic urothelial carcinoma: data from the ARON-2 retrospective study. Cancer Immunol Immunother. 2023 Nov;72(11):3665-3682. | Jimp | WoS | 5 | 5.800 |
| 4 | XXX. Pembrolizumab plus enfortumab vedotin in urothelial cancer. Nat Rev Urol. 2024 Jan 24. Epub ahead of print. | Jimp2 | WoS | 0 | 15.300 |
| 5 | XXX. Non-coding transcriptome profiles in clear cell renal cell carcinoma. Nat Rev Urol. 2024, Accepted for publication, May 29, 2024. | Jimp2 | WoS | 0 | 15.300 |

**Contribution to the field**

The applicant has long been involved in clinical and translational research, with a significant focus on the identification of prognostic and predictive biomarkers and personalization of cancer treatment in the fields of urological malignancies, colorectal cancer and NSCLC. He has published 39 papers as first/corresponding author in IF journals.

**Total number of results defined in the currently valid Methodology for Evaluating for Results of Research and Development for last 5 years**

|  |  |
| --- | --- |
| Jimp - Article in professional journal, impacted | 35 |
| Jimp2 - Article in professional journal, impacted | 3 |

**Total number of citations and WoK h-index**

|  |  |
| --- | --- |
| Number of citations (excluding self-citations) for all papers according to WoS | 939 |
| h-index according to Web of Knowledge | 16.00 |

**History of international cooperation**

XXX (Oncology Unit, Macerata Hospital, Macerata, Italy): Collaboration in clinical research on different aspects of treatment of renal cell carcinoma, urothelial carcinoma and prostate cancer. Active participation (including coordination and preparation of publications from individual analyses) in the ARON1, ARON2 and ARON2-EV projects; XXX (Department of Medicine and Surgery, University Hospital of Parma, Parma, Italy): Collaboration in clinical research on different aspects of the treatment of renal cell carcinoma, urothelial carcinoma and prostate cancer (projects ARON1, ARON2, ARON2-EV); XXX (Institute for Clinical Medicine, Faculty of Medicine, University of Oslo, Norway): research collaboration in ovarian, colorectal and renal cell carcinoma; XXX (German Cancer Research Center, Heidelberg, Germany): Colorectal cancer research collaboration.

Proposer - Part D - Information on Other Projects

**Applicant:** XXX

**Proposer:** University Hospital Pilsen

**Running projects**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **NW24-03-00521** - Výzkum přechodu karcinomu tračníku ze stadia II do stadií III a IV pomocí studia nádorového mikroprostředí a somatických mutací s funkčním významem | | | | | |
| **Provider** | MZ0 - Ministerstvo zdravotnictví | | | | |
| **Programme** | NW - Program na podporu zdravotnického aplikovaného výzkumu na léta 2024 – 2030 | | | | |
| **Field OECD** | 30204 - Oncology | | | | |
| **Panel** | 03 - Malignancy | | | | |
| **Start date** | 5/1/2024 | **End date** | 12/31/2027 | **Spec.-purp. Support** | 995 thous. CZK |
| **Beneficiary** | Univerzita Karlova / Lékařská fakulta Plzeň | | | | |
| **Role in prj.** | Co-applicant | **Full-time** | 0.20 | **Agreement** |  |
| **Relationship to the submitted proposal:** None. | | | | | |

**Proposed projects**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **NW25-08-00087** - Globální interaktomické mapování imunokomplexů pro cílenou terapii solidních nádorů | | | | | |
| **Provider** | MZ0 - Ministerstvo zdravotnictví | | | | |
| **Programme** | NW - Program na podporu zdravotnického aplikovaného výzkumu na léta 2024 – 2030 | | | | |
| **Field OECD** | 30204 - Oncology | | | | |
| **Panel** | 08 - Biomedical technology | | | | |
| **Start date** | 5/1/2025 | **End date** | 12/31/2028 | **Spec.-purp. Support** | 639 thous. CZK |
| **Beneficiary** | Masarykova univerzita / Přírodovědecká fakulta | | | | |
| **Role in prj.** | Co-applicant | **Full-time** | 0.10 | **Agreement** |  |
| **Relationship to the submitted proposal:** None. | | | | | |

**Completed projects**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **NV17-30748A** - Nová metoda kombinace funkčních zobrazovacích metod a nádorové genomiky pro neinvazivní fenotypizaci a sledování efektu léčby plicních karcinomů | | | | | |
| **Provider** | MZ0 - Ministerstvo zdravotnictví | | | | |
| **Programme** | NV - Program na podporu zdravotnického aplikovaného výzkumu na léta 2015 - 2023 | | | | |
| **Field OECD** | 30204 - Oncology | | | | |
| **Panel** | 08 - Biomedical technology | | | | |
| **Start date** | 4/1/2017 | **End date** | 12/31/2021 | **Spec.-purp. Support** | 2,159 thous. CZK |
| **Beneficiary** | Univerzita Karlova / Lékařská fakulta v Plzni | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Role in prj.** | Co-applicant | **Full-time** | 0.20 | **Agreement** |  |
| **Evaluation** | Met (U/S/B) | | | | |
| **Relationship to the submitted proposal:** None. | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **NV19-08-00250** - Proteotypová klasifikace renálního karcinomu ve vztahu k prognóze a terapeutické  odpovědi | | | | | |
| **Provider** | MZ0 - Ministerstvo zdravotnictví | | | | |
| **Programme** | NV - Program na podporu zdravotnického aplikovaného výzkumu a vývoje na léta 2015 – 2022 | | | | |
| **Field OECD** | 30204 - Oncology | | | | |
| **Panel** | 08 - Biomedical technology | | | | |
| **Start date** | 5/1/2019 | **End date** | 12/31/2023 | **Spec.-purp. Support** | 997 thous. CZK |
| **Beneficiary** | Masarykova univerzita / Přírodovědecká fakulta | | | | |
| **Role in prj.** | Team Member | **Full-time** | 0.10 | **Agreement** |  |
| **Evaluation** | Not yet evaluated | | | | |
| **Relationship to the submitted proposal:** related - partial results will be used in the submitted project | | | | | |

1. Co-proposer - Part B - Total funds

**Co-applicant:** XXX

**Co-proposer:** Masaryk University/Faculty of Science

**Total eligible costs of the Project from all funding sources (in thousands CZK)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2025** | **2026** | **2027** | **2028** | **Total** |
| Total Provider subsidy of the Project | 488 | 1,401 | 1,401 | 1,363 | **4,653** |
| Support from other public sources (domestic and foreign) - non- investment | 0 | 0 | 0 | 0 | **0** |
| Support from other public sources (domestic and foreign) - investment | 0 | 0 | 0 | 0 | **0** |
| Support from non-public sources (own funds, private subsidies)  - non-investment | 0 | 0 | 0 | 0 | **0** |
| Support from non-public sources (own funds, private subsidies)  - investment | 0 | 0 | 0 | 0 | **0** |
| Eligible costs from all funding sources | 488 | 1,401 | 1,401 | 1,363 | **4,653** |
| The Support intensity | 100,00 % | | | | |

**Total eligible costs of the Project from all funding sources (in thousands CZK)**

|  |  |
| --- | --- |
| Organisation type | Research Organisation |
| I declare that | No cross-border cooperation |
| Research results | Will be publicly disseminated |

**Maximum support intensity**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Eligible costs (in thous. CZK)** | **Share of the project** | **Max. support (in thous. CZK)** | **Max. share of eligible costs** |
| Basic research | 240 | 5.16 % | 240 | 100.00 % |
| Applied research | 3,500 | 75.22 % | 3,500 | 100.00 % |
| Experimental development | 913 | 19.62 % | 913 | 100.00 % |
| **Total** | **4,653** | **100.00 %** | **4,653** | **100.00 %** |

**Allocation of recognised costs of the Project (in thousands CZK)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2025** | **2026** | **2027** | **2028** | **Total** |
| Other operating costs | 347 | 700 | 700 | 662 | **2,409** |
| Investment costs | 0 | 0 | 0 | 0 | **0** |
| Personnel costs | 141 | 701 | 701 | 701 | **2,244** |
| Eligible costs from all funding sources | 488 | 1,401 | 1,401 | 1,363 | **4,653** |
| **of which special-purpose costs** | **488** | **1,401** | **1,401** | **1,363** | **4,653** |

1. Co-proposer - Part B - Breakdown of Financial Items This part of the proposal is to be filled in with the total estimated eligible costs of the project

(special-purpose costs + co-financing)!

**Other operating costs (in thousands CZK)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2025** | **2026** | **2027** | **2028** | **Total** |
| Material costs | 250 | 250 | 250 | 220 | **970** |
| Travel costs | 0 | 20 | 20 | 20 | **60** |
| Costs of other services | 0 | 150 | 150 | 150 | **450** |
| Overhead costs | 97 | 280 | 280 | 272 | **929** |
| **Total** | **347** | **700** | **700** | **662** | **2,409** |

**Total personnel costs (in thousands CZK)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2025** | **2026** | **2027** | **2028** | **Total** |
| Wages - Team | 104 | 520 | 520 | 520 | **1,664** |
| Wages - Others | 0 | 0 | 0 | 0 | **0** |
| Agreements | 0 | 0 | 0 | 0 | **0** |
| Scholarships | 0 | 0 | 0 | 0 | **0** |
| Others | 37 | 181 | 181 | 181 | **580** |
| **Total** | **141** | **701** | **701** | **701** | **2,244** |

**Personnel costs - Co-applicant and co-workers (in thousands CZK)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name, surname - job title / description of activities** | **S** | **Year** | **FT share** | **Wage** | **Remuner.** |
| **XXX**  Coordination of the project at MU, phosphoproteomics and mass spectrometry technologies, data integration and interpretation, manuscript preparation | N | 2025 | 0.10 | 68 | 0 |
| 2026 | 0.10 | 101 | 0 |
| 2027 | 0.10 | 101 | 0 |
| 2028 | 0.10 | 101 | 0 |
| **Name, surname - job title / description of activities** | **S** | **Year** | **FT share** | **Wage** | **Remuner.** |
| **XXX**  Protein extraction from tissue samples, sample preparation for mass spectrometry, phosphoenrichment, data analysis, integration and interpretation, manuscript preparation | N | 2025 | 0.04 | 11 | 0 |
| 2026 | 0.30 | 128 | 0 |
| 2027 | 0.30 | 128 | 0 |
| 2028 | 0.30 | 128 | 0 |
| **Name, surname - job title / description of activities** | **S** | **Year** | **FT share** | **Wage** | **Remuner.** |
| **XXX**  Functional characterization of the key proteins using 2D/3D in vitro methods, drug sensitivity screening, protein extraction from tissue samples, sample quality control, | N | 2025 | 0.07 | 25 | 0 |
| 2026 | 0.50 | 291 | 0 |
| 2027 | 0.50 | 291 | 0 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| management of tissue samples and data, manuscript preparation |  | 2028 | 0.50 | 291 | 0 |

**Personnel costs - Social and health insurance/Other (in thousands CZK)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Type of cost** | **2025** | **2026** | **2027** | **2028** | **Total** |
| Social and health insurance, social fund | 37 | 181 | 181 | 181 | **580** |

1. Co-proposer - Part B - Justification of financial items

**Specification and justification of costs for 2025 Material costs**

Material costs will include material for phosphoproteomics analyses of the tissues: material and chemicals for tissue lysis and disposable colums for protein digestion and peptide purification (80000 CZK); proteolytic enzymes (trypsin - 25000 CZK); phosphoenrichment kits (70000 CZK), isolation kits and kits for determination of sample quality using QUBIT instrument (40000 CZK); mobile phases, peptide standards, common laboratory chemicals and material such as microcentrifuge tubes, pipette tips and other laboratory plastics (35000 CZK). In the next years, the material will also include antibodies for detection of identified (phospho)proteins, PLOD2 inhibitors, material for gel electrophoresis and western-blotting, material for molecular biology methods, material for tissue cultures (media, plastics) and functional assays (adhesion assay, CCK8 kit). A small part of the material cost may cover renewal of basic small laboratory equipment if needed.

**Travel costs**

Travel costs are not requested for the first year. In the next years (2026-28), these will cover active presentation of the results in high-quality international conferences and/or summer schools in the field of cancer and omics research organized by European Association for Cancer Research, Human Proteome Organization, European Proteomics Association, at European Summer School in Advanced Proteomics and similar meetings.

**Costs of other services**

Service expenses will cover mass spectrometry instrument time, confocal microscope instrument time, special data analysis services (association of phosphoproteomics data with clinical parameters, data integration), publication fees and conference fees for the conferences attended in 2026-28 as mentioned above.

**Overhead costs**

Additional (overhead) costs - about 20% of the total recognized non-investment costs of the project will be used to cover the costs of the workplace - electricity, gas, heat, water, sewerage, administrative costs, etc.

**Personnel costs**

P. Bouchal (0.1 FTE; 68000 CZK in 2025 and 101000 CZK per year in 2026-28) - coordination of the project at MU, phosphoproteomics and mass spectrometry technologies, data interpretation and integration, manuscript preparation. J. Šimoník (0.04 FTE/11000 CZK in 2025 and 0.3 FTE/128000 CZK per year in 2026- 28) - protein extraction from tissue samples, sample preparation for mass spectrometry, phosphoenrichment, data analysis, integration and interpretation, manuscript preparation. P. Bouchalová (0.07 FTE/25000 CZK in 2025 and 0.5 FTE/291000 CZK per year in 2026-28) - functional characterization of the key proteins using 2D/3D in vitro methods, drug sensitivity screening, protein extraction from tissue samples, sample quality control, management of tissue samples and data, manuscript preparation. Financial resources for personnel costs are calculated in accordance with internal regulations of Masaryk University and the rules of the tender documentation. The amount for social and health insurance and SF is in the legal amount.

**Investment costs**

No capital assets are requested.

1. Co-proposer - Part C - Bibliography

**Co-applicant:** XXX

**Co-proposer:** Masaryk University/Faculty of Science

**Full bibliographic data regarding the most important results of scientific and research activity as defined in the currently valid Methodology for Evaluating the Results of Research and Development**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Result** | **Code** | **Database** | **Citations** | **IF** |
| 1 | XXX. Biomarker discovery in low-grade breast cancer using isobaric stable isotope tags and two- dimensional liquid chromatography-tandem mass spectrometry (iTRAQ-2DLC-MS/MS) based quantitative proteomic analysis. Journal of Proteome Research. 2009, vol. 8, No 1, p. 362-373. ISSN 1535-3893.  https://dx.doi.org/10.1021/pr800622b | Jimp | WoS | 87 | 5.132 |
| 2 | XXX. Breast Cancer Classification Based on Proteotypes Obtained by SWATH Mass Spectrometry. Cell Reports. 2019, vol. 28, No 3, p. "832"-"843.e7", 20 pp. ISSN 2211-1247.  https://dx.doi.org/10.1016/j.celrep.2019.06.046 | Jimp | WoS | 45 | 5.912 |
| 3 | XXX. Breast Cancer Classification Based on Proteotypes Obtained by SWATH Mass Spectrometry. Cell Reports. 2019, vol. 28, No 3, p. "832"-"843.e7", 20 pp. ISSN 2211-1247.  https://dx.doi.org/10.1016/j.celrep.2019.06.046 | Jimp | WoS | 61 | 8.109 |
| 4 | XXX. Characterization of the AGR2 Interactome Uncovers New Players of Protein Disulfide Isomerase Network in Cancer Cells. Molecular & Cellular Proteomics. 2022, vol. 21, No 2, p. 1-19. ISSN 1535-9484.  https://dx.doi.org/10.1016/j.mcpro.2021.100188. | Jimp | WoS | 12 | 7.000 |
| 5 | XXX. Global interactome mapping reveals pro-tumorigenic interactions of NF-?B in breast cancer. Molecular and Cellular Proteomics. 2024, vol. 23, No 4, p. 1-20. ISSN | Jimp | WoS | 0 | 7.000 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 1535-9484. https://dx.doi.org/10.1016/j.mcpro.2024.100744. |  |  |  |  |

**Contribution to the field**

Pavel Bouchal has been working in the field of cancer proteomics since 2004. In 2009, he has published the first over LC-MS/MS analyses of human breast cancer tissues together with Spiros Garbis. In 2015, they published one of the first combined proteomics and transcriptomics studies on human breast cancer cohort in Molecular & Cellular Proteomics, leading to identification of carboxypeptidase B1 and NF-kB associated proteins as key factors associated with lymph node metastasis of luminal phenotype. During a series of visits in the lab of Prof. Ruedi Aebersold in 2014-15, he has applied data independent acquisition mass spectrometry (DIA-MS) to recapitulate breast cancer classification into current subtypes and constructed a proteomics-based classifier (published in Cell Reports 2019). His latest work focuses on cancer classification using DIA-MS, identification and characterization of RCC biomarkers, multiomics data integration, and cancer interactome.

**Total number of results defined in the currently valid Methodology for Evaluating for Results of Research and Development for last 5 years**

|  |  |
| --- | --- |
| Jimp - Article in professional journal, impacted | 15 |
| Jimp2 - Article in professional journal, impacted | 1 |
| W - Workshop organization | 1 |

**Total number of citations and WoK h-index**

|  |  |
| --- | --- |
| Number of citations (excluding self-citations) for all papers according to WoS | 664 |
| h-index according to Web of Knowledge | 17.00 |

**History of international cooperation**

XXX started his international training at Vrije Universiteit Amsterdam with dr. Rob van Spanning during his postdoctoral stay in 2006 to study the role of transcription factors in proteome networks. Then he visited lab of Dr. Spiros D. Garbis for LC-MS/MS training in 2007 and 2011 at Academy of Athens and subsequently in 2013 at University of Southampton. In 2014-15 he spent 6 months in the world-leading proteomics laboratory of Prof. Ruedi Aebersold at ETH Zurich for training in LC-DIA-MS/MS method and data analysis. In 2016, he visited Prof. Leonard Foster lab at University of British Columbia for training in mass spectrometry-based interactomics. Since 2019, he serves as editorial board member of the journals Proteomics and Proteomics-Clinical Applications (Wiley) and -since 2021- as a member of funding committee and accounting advisory board of European Proteomics Association.

1. Co-proposer - Part D - Information on Other Projects

**Co-applicant:** XXX

**Co-proposer:** Masaryk University/Faculty of Science

**Running projects**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **NU22-08-00230** - Proteogenomics classification of triple negative breast cancer for prognosis and targeted therapy | | | | | |
| **Provider** | MZ0 | | | | |
| **Programme** | PROGRAM NA PODPORU ZDRAVOTNICKÉHO APLIKOVANÉHO VÝZKUMU NA LÉTA 2020 - 2026 | | | | |
| **Field OECD** | 30204 - Oncology | | | | |
| **Panel** | 08 - Biomedical technology | | | | |
| **Start date** | 5/1/2022 | **End date** | 12/31/2025 | **Spec.-purp. Support** | 9,211 thous. CZK |
| **Beneficiary** | Masarykova univerzita | | | | |
| **Role in prj.** | Applicant | **Full-time** | 0.20 | **Agreement** |  |
| **Relationship to the submitted proposal:** No relationship | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **LX22NPO5102** - National institute for cancer research | | | | | |
| **Provider** | MSM | | | | |
| **Programme** | National recovery plan - 5.1 EXCELES | | | | |
| **Field OECD** | 30204 - Oncology | | | | |
| **Start date** | 6/1/2022 | **End date** | 12/31/2025 | **Spec.-purp. Support** | 334,998 thous. CZK |
| **Beneficiary** | Univerzita Karlova / 1. lékařská fakulta | | | | |
| **Role in prj.** | Team Member | **Full-time** | 0.30 | **Agreement** |  |
| **Relationship to the submitted proposal:** No relationship | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **0016/NPO74\_PZDU\_VS** - NPO 7.4. – Podpora zelených dovedností a udržitelnosti na MU | | | | | |
| **Provider** | MSM | | | | |
| **Programme** | National recovery plan - 7.4 Adaptace školských programů – Podpora zelených dovedností a udržitelnosti na vysokých školách | | | | |
| **Field OECD** | 10608 - Biochemistry and molecular biology | | | | |
| **Start date** | 2/1/2024 | **End date** | 12/31/2025 | **Spec.-purp. Support** | 82,431 thous. CZK |
| **Beneficiary** | Masarykova univerzita | | | | |
| **Role in prj.** | Team Member | **Full-time** | 0.12 | **Agreement** |  |
| **Relationship to the submitted proposal:** No relationship. XXX will participate on this project until 31.07.2024 only. | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **GA21-03156S** - Foton-upkonverzní značky pro mikrofluidní jednomolekulové imunostanovení proteinových biomarkerů | | | | | |
| **Provider** | GA0 | | | | |
| **Programme** | GA - Standardní projekty | | | | |
| **Field OECD** | 10406 - Analytical chemistry | | | | |
| **Start date** | 3/1/2021 | **End date** | 9/30/2024 | **Spec.-purp. Support** | 3,567 thous. CZK |
| **Beneficiary** | Ústav analytické chemie AV ČR, v.v.i. | | | | |
| **Role in prj.** | Team Member | **Full-time** | 0.09 | **Agreement** |  |
| **Relationship to the submitted proposal:** No relationship. XXX has participated on this project until 31.03.2024. | | | | | |

**Proposed projects**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **NW25-08-00087** - Global interactome mapping of therapeutically targetable immunocomplexes in solid cancers | | | | | |
| **Provider** | MZ0 | | | | |
| **Programme** | PROGRAM NA PODPORU ZDRAVOTNICKÉHO APLIKOVANÉHO VÝZKUMU NA LÉTA 2024 - 2030 | | | | |
| **Field OECD** | 30204 - Oncology | | | | |
| **Panel** | 08 - Biomedical technology | | | | |
| **Start date** | 5/1/2025 | **End date** | 12/31/2028 | **Spec.-purp. Support** | 9,168 thous. CZK |
| **Beneficiary** | Masarykova univerzita | | | | |
| **Role in prj.** | Applicant | **Full-time** | 0.20 | **Agreement** |  |
| **Relationship to the submitted proposal:** No relationship. | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **NW25-03-00131** - Proteomic Portrait of Glioblastoma: a Way to Stratified Therapy | | | | | |
| **Provider** | MZ0 | | | | |
| **Programme** | PROGRAM NA PODPORU ZDRAVOTNICKÉHO APLIKOVANÉHO VÝZKUMU NA LÉTA 2024 - 2030 | | | | |
| **Field OECD** | 30204 - Oncology | | | | |
| **Panel** | 03 - Malignancy | | | | |
| **Start date** | 5/1/2025 | **End date** | 12/31/2028 | **Spec.-purp. Support** | 7,899 thous. CZK |
| **Beneficiary** | Fakultní nemocnice u sv. Anny v Brně | | | | |
| **Role in prj.** | Team Member | **Full-time** | 0.10 | **Agreement** |  |
| **Relationship to the submitted proposal:** No relationship. | | | | | |

**Completed projects**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **NV19-08-00250** - Proteotype classification of renal cell carcinoma for prognosis and therapy response | | | | | |
| **Provider** | MZ0 | | | | |
| **Programme** | NV - Program na podporu zdravotnického aplikovaného výzkumu a vývoje na léta 2015 – 2022 | | | | |
| **Field OECD** | 30204 - Oncology | | | | |
| **Panel** | 08 - Biomedical technology | | | | |
| **Start date** | 5/1/2019 | **End date** | 12/31/2023 | **Spec.-purp. Support** | 6,678 thous. CZK |
| **Beneficiary** | Masarykova univerzita | | | | |
| **Role in prj.** | Applicant | **Full-time** | 0.20 | **Agreement** |  |
| **Evaluation** | Not yet evaluated | | | | |
| **Relationship to the submitted proposal:** No relationship. | | | | | |

1. Co-proposer - Part B - Total funds

**Co-applicant:** XXX

**Co-proposer:** Masaryk Memorial Cancer Institute

**Total eligible costs of the Project from all funding sources (in thousands CZK)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2025** | **2026** | **2027** | **2028** | **Total** |
| Total Provider subsidy of the Project | 266 | 415 | 475 | 485 | **1,641** |
| Support from other public sources (domestic and foreign) - non- investment | 0 | 0 | 0 | 0 | **0** |
| Support from other public sources (domestic and foreign) - investment | 0 | 0 | 0 | 0 | **0** |
| Support from non-public sources (own funds, private subsidies)  - non-investment | 0 | 0 | 0 | 0 | **0** |
| Support from non-public sources (own funds, private subsidies)  - investment | 0 | 0 | 0 | 0 | **0** |
| Eligible costs from all funding sources | 266 | 415 | 475 | 485 | **1,641** |
| The Support intensity | 100,00 % | | | | |

**Total eligible costs of the Project from all funding sources (in thousands CZK)**

|  |  |
| --- | --- |
| Organisation type | Research Organisation |
| I declare that | No cross-border cooperation |
| Research results | Will be publicly disseminated |

**Maximum support intensity**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Eligible costs (in thous. CZK)** | **Share of the project** | **Max. support (in thous. CZK)** | **Max. share of eligible costs** |
| Basic research | 82 | 5.00 % | 82 | 100.00 % |
| Applied research | 1,559 | 95.00 % | 1,559 | 100.00 % |
| Experimental development | 0 | 0.00 % | 0 | 100.00 % |
| **Total** | **1,641** | **100.00 %** | **1,641** | **100.00 %** |

**Allocation of recognised costs of the Project (in thousands CZK)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2025** | **2026** | **2027** | **2028** | **Total** |
| Other operating costs | 88 | 138 | 190 | 192 | **608** |
| Investment costs | 0 | 0 | 0 | 0 | **0** |
| Personnel costs | 178 | 277 | 285 | 293 | **1,033** |
| Eligible costs from all funding sources | 266 | 415 | 475 | 485 | **1,641** |
| **of which special-purpose costs** | **266** | **415** | **475** | **485** | **1,641** |

2. Co-proposer - Part B - Breakdown of Financial Items This part of the proposal is to be filled in with the total estimated eligible costs of the project

(special-purpose costs + co-financing)!

**Other operating costs (in thousands CZK)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2025** | **2026** | **2027** | **2028** | **Total** |
| Material costs | 30 | 50 | 50 | 50 | **180** |
| Travel costs | 0 | 0 | 30 | 30 | **60** |
| Costs of other services | 5 | 5 | 15 | 15 | **40** |
| Overhead costs | 53 | 83 | 95 | 97 | **328** |
| **Total** | **88** | **138** | **190** | **192** | **608** |

**Total personnel costs (in thousands CZK)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2025** | **2026** | **2027** | **2028** | **Total** |
| Wages - Team | 76 | 121 | 127 | 133 | **457** |
| Wages - Others | 0 | 0 | 0 | 0 | **0** |
| Agreements | 56 | 84 | 84 | 84 | **308** |
| Scholarships | 0 | 0 | 0 | 0 | **0** |
| Others | 46 | 72 | 74 | 76 | **268** |
| **Total** | **178** | **277** | **285** | **293** | **1,033** |

**Personnel costs - Co-applicant and co-workers (in thousands CZK)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name, surname - job title / description of activities** | **S** | **Year** | **FT share** | **Wage** | **Remuner.** |
| **XXX**  Co-applicant - project coordination at the co-investigator site, selection of appropriate cancer patients, informed consent process, data collection and processing, clinicopathological interpretations, data interpretation, publication of results | N | 2025 | 0.10 | 56 | 0 |
| 2026 | 0.10 | 89 | 0 |
| 2027 | 0.10 | 93 | 0 |
| 2028 | 0.10 | 98 | 0 |
| **Name, surname - job title / description of activities** | **S** | **Year** | **FT share** | **Wage** | **Remuner.** |
| **XXX**  Professional co-worker - eligible cancer patients selection, informed consent process, data processing and interpretation, collaborating on the presentation and publication of results | N | 2025 | 0.05 | 20 | 0 |
| 2026 | 0.05 | 32 | 0 |
| 2027 | 0.05 | 34 | 0 |
| 2028 | 0.05 | 35 | 0 |

**Personnel costs - Other personnel costs (in thousands CZK)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name, surname - job title / description of activities** | **S** | **Year** | **Number of hours** | **Amount** |
| **XXX**  Will be responsible for the delivery of pathology data relevant to the project objectives, their interpretation, will | N | 2025 | 40 | 18 |
| 2026 | 60 | 27 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| participate on publication of results. |  | 2027 | 60 | 27 |
| 2028 | 60 | 27 |
| **Name, surname - job title / description of activities** | **S** | **Year** | **Number of hours** | **Amount** |
| **XXX**  Will be responsible for for the collection, processing and record keeping of biological samples. | N | 2025 | 40 | 14 |
| 2026 | 60 | 21 |
| 2027 | 60 | 21 |
| 2028 | 60 | 21 |
| **Name, surname - job title / description of activities** | **S** | **Year** | **Number of hours** | **Amount** |
| Administrative and support activities related to the project. | N | 2025 | 80 | 24 |
| 2026 | 120 | 36 |
| 2027 | 120 | 36 |
| 2028 | 120 | 36 |

**Personnel costs - Social and health insurance/Other (in thousands CZK)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Type of cost** | **2025** | **2026** | **2027** | **2028** | **Total** |
| Social and health insurance, social fund | 46 | 72 | 74 | 76 | **268** |

2. Co-proposer - Part B - Justification of financial items

**Specification and justification of costs for 2025 Material costs**

The material costs (30k CZK for the first year, á 50k CZK for the following years) will cover consumable medical supplies, surgical instruments necessary for the collection of material, collection materials, gloves, pads, chemicals, etc.

**Travel costs**

In the first year of the project, we do not plan travel costs. We plan travel costs in the third (30k CZK) and fourth (30k CZK) year of the project when they will be used to cover the active participation in national conferences for the co-investigator team. The registration fees for these events will be covered by "Costs for other services".

**Costs of other services**

In 2025, we plan the Cost of other services of CZK 5k CZK to cover the presentation of the methodology and results (language and text proofreading, postage, and other services currently necessary for the project). Bank charges and exchange rate losses on payments abroad. The increase in the third (15k CZK) and last year (15k CZK) of the project will cover conference fees and publications.

**Overhead costs**

Overhead costs for a maximum of 20 % of the total non-investment costs (CZK 53k) will be used mainly for administrative costs, infrastructure costs including energy and other services not included in the chapter Costs of other services.

**Personnel costs**

Personnel costs in the first year of the grant project (178k CZK): XXX (0,1 FTE, 56k CZK) - Co- applicant - Will be responsible for project coordination at the co-PI/co-investigator site, as well as the selection of appropriate cancer patients, informed consent process, data collection and processing, clinicopathological interpretations, data interpretation, and will work with the PI/co-investigator team to present and publish results.; XXX (0,05 FTE, 20k CZK) - Professional co-worker - will be responsible for selecting appropriate cancer patients, ensuring signing informed consent, data processing, data interpretation, and collaborating on the presentation and publication of results. Pavel Fabian (DPP, 40 hours in the first year, 18k CZK, 60 hours in the following years) - Professional co-worker - will be responsible for the delivery of pathology data relevant to the project objectives, and their interpretation. Will participate on the publication of results.; XXX (DPP, 40 hours in the first year, 14k CZK, 60 hours in the following years) - Professional co-worker - will be responsible for collecting, processing, and record keeping of biological samples.; administrative and support activities related to the project (DPP, 80 hours in the first year, 24k CZK, 120 hours in the following years) - will be responsible for coordination between the different disciplines at the co-investigator's site and communication with other project participants, will be involved in the presentation and publication of the results. Statutory social and health insurance contributions including FKSP and statutory employer's liability insurance - (46k CZK). The salary costs were calculated in accordance with the terms of the tender documentation and the internal regulations of the Masaryk Memorial Cancer Institute.

**Investment costs**

Not planned.

2. Co-proposer - Part C - Bibliography

**Co-applicant:** XXX

**Co-proposer:** Masaryk Memorial Cancer Institute

**Full bibliographic data regarding the most important results of scientific and research activity as defined in the currently valid Methodology for Evaluating the Results of Research and Development**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Result** | **Code** | **Database** | **Citations** | **IF** |
| 1 | XXX, et al. Cytoreductive nephrectomy and overall survival of patients with metastatic renal cell carcinoma treated with targeted therapy—Data from the National Renis Registry. Cancers, 2020, 12.10: 2911. | Jimp | WoS | 9 | 6.639 |
| 2 | XXX, et al. Outcomes for patients with metastatic renal cell carcinoma achieving a complete response on targeted therapy: a registry-based analysis. European urology, 2016, 70.3: 469-475. | Jimp | WoS | 37 | 16.265 |
| 3 | XXX, et al. Circulating miR-378 and miR-451 in serum are potential biomarkers for renal cell carcinoma.  Journal of translational medicine, 2012, 10: 1-8. | Jimp | WoS | 218 | 3.459 |
| 4 | XXX, et al. Identification of MicroRNAs associated with early relapse after nephrectomy in renal cell carcinoma patients. Genes, chromosomes and cancer, 2012,  51.7: 707-716. | Jimp | WoS | 93 | 3.546 |
| 5 | XXX, et al. Skin toxicity and efficacy of sunitinib and sorafenib in metastatic renal cell carcinoma: a national registry-based study. Annals of oncology, 2012,  23.12: 3137-3143. | Jimp | WoS | 90 | 7.384 |

**Contribution to the field**

XXX, has been a clinical oncologist for 16 years and since the beginning of his career, he has focused on renal and urinary tract tumors. In 2023, he was appointed Deputy head, of the Department of Comprehensive Cancer Care – Medical chief at Masaryk Memorial Cancer Institute. He is the chairman of the Section of Uro-Oncology of the Czech Society for Oncology (CSO) and a member of the Working Group for Uro-Oncology, which is responsible for the development of recommendations for the treatment of renal and urinary tract tumors. He is the author or co-author of more than 65 impacted articles. He is also the principal investigator or co-investigator of research grants investigating possible predictors for the treatment of renal and urinary tract tumors.

**Total number of results defined in the currently valid Methodology for Evaluating for Results of Research and Development for last 5 years**

|  |  |
| --- | --- |
| Jimp - Article in professional journal, impacted | 27 |
| Jsc - Article in professional journal, included in Scopus database | 10 |
| Jost - Article in peer-reviewed professional journal | 19 |
| C - Chapter in scholar book/monograph | 8 |
| D - Article in conference proceedings | 1 |

**Total number of citations and WoK h-index**

|  |  |
| --- | --- |
| Number of citations (excluding self-citations) for all papers according to WoS | 1385 |
| h-index according to Web of Knowledge | 20.00 |

**History of international cooperation**

XXX, is involved in the international collaborative projects ARON-1 (renal cell carcinoma), ARON-2 (metastatic urothelial carcinoma) and more recently ARON-3 (prostate cancer). He has also established collaborations with the National Cancer Research Institute Marie Sklodowska- Curie in Warsaw and University Hospital La Paz Madrid on data collection related to renal cell carcinoma patients within the ICARO project. Active participation in congresses e.g. ESMO, CORE, PraqueOnco, etc.

2. Co-proposer - Part D - Information on Other Projects

**Co-applicant:** XXX

**Co-proposer:** Masaryk Memorial Cancer Institute

**Running projects**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **NU21-03-00539** - Vliv stresu endoplazmatického retikula na imunitní stav nádorů a účinnost imunoterapie  při léčbě ovariálního a renálního karcinomu | | | | | |
| **Provider** | MZ0 - Ministerstvo zdravotnictví | | | | |
| **Programme** | NU - Program na podporu zdravotnického aplikovaného výzkumu a vývoje na léta 2020 – 2026 | | | | |
| **Field OECD** | 30204 - Oncology | | | | |
| **Panel** | 03 - Malignancy | | | | |
| **Start date** | 5/1/2021 | **End date** | 12/31/2024 | **Spec.-purp. Support** | 7,842 thous. CZK |
| **Beneficiary** | Masarykův onkologický ústav | | | | |
| **Role in prj.** | Applicant | **Full-time** | 0.15 | **Agreement** |  |
| **Relationship to the submitted proposal:** No relation. | | | | | |

**Proposed projects**

I don't really have any thematically related proposed projects

**Completed projects**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **NV18-03-00554** - Molekulární klasifikace renálního buněčného karcinomu založená na expresi dlouhých nekódujících RNA a její využití v diagnostice, předpovědi prognózy a terapii | | | | | |
| **Provider** | MZ0 - Ministerstvo zdravotnictví | | | | |
| **Programme** | NV - Program na podporu zdravotnického aplikovaného výzkumu a vývoje na léta 2015 – 2022 | | | | |
| **Field OECD** | 30204 - Oncology | | | | |
| **Panel** | 03 - Malignancy | | | | |
| **Start date** | 5/1/2018 | **End date** | 12/31/2022 | **Spec.-purp. Support** | 1,846 thous. CZK |
| **Beneficiary** | Masarykova univerzita / Středoevropský technologický institut | | | | |
| **Role in prj.** | Co-applicant | **Full-time** | 0.16 | **Agreement** |  |
| **Evaluation** | Met (U/S/B) | | | | |
| **Relationship to the submitted proposal:** Proposed project expands NV18-03-00554. | | | | | |

|  |  |
| --- | --- |
| **NV19-08-00250** - Proteotypová klasifikace renálního karcinomu ve vztahu k prognóze a terapeutické  odpovědi | |
| **Provider** | MZ0 - Ministerstvo zdravotnictví |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Programme** | NV - Program na podporu zdravotnického aplikovaného výzkumu a vývoje na léta 2015 – 2022 | | | | |
| **Field OECD** | 30204 - Oncology | | | | |
| **Panel** | 08 - Biomedical technology | | | | |
| **Start date** | 5/1/2019 | **End date** | 12/31/2023 | **Spec.-purp. Support** | 1,787 thous. CZK |
| **Beneficiary** | Masarykova univerzita / Přírodovědecká fakulta | | | | |
| **Role in prj.** | Co-applicant | **Full-time** | 0.16 | **Agreement** |  |
| **Evaluation** | Not yet evaluated | | | | |
| **Relationship to the submitted proposal:** Proposed project expands NV19-08-00250. | | | | | |

3. Co-proposer - Part B - Total funds

**Co-applicant:** XXX

**Co-proposer:** Charles University/Faculty of Medicine in Plzeň

**Total eligible costs of the Project from all funding sources (in thousands CZK)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2025** | **2026** | **2027** | **2028** | **Total** |
| Total Provider subsidy of the Project | 1,116 | 1,646 | 1,670 | 1,430 | **5,862** |
| Support from other public sources (domestic and foreign) - non- investment | 0 | 0 | 0 | 0 | **0** |
| Support from other public sources (domestic and foreign) - investment | 0 | 0 | 0 | 0 | **0** |
| Support from non-public sources (own funds, private subsidies)  - non-investment | 0 | 0 | 0 | 0 | **0** |
| Support from non-public sources (own funds, private subsidies)  - investment | 0 | 0 | 0 | 0 | **0** |
| Eligible costs from all funding sources | 1,116 | 1,646 | 1,670 | 1,430 | **5,862** |
| The Support intensity | 100,00 % | | | | |

**Total eligible costs of the Project from all funding sources (in thousands CZK)**

|  |  |
| --- | --- |
| Organisation type | Research Organisation |
| I declare that | No cross-border cooperation |
| Research results | Will be publicly disseminated |

**Maximum support intensity**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Eligible costs (in thous. CZK)** | **Share of the project** | **Max. support (in thous. CZK)** | **Max. share of eligible costs** |
| Basic research | 562 | 9.59 % | 562 | 100.00 % |
| Applied research | 0 | 0.00 % | 0 | 100.00 % |
| Experimental development | 5,300 | 90.41 % | 5,300 | 100.00 % |
| **Total** | **5,862** | **100.00 %** | **5,862** | **100.00 %** |

**Allocation of recognised costs of the Project (in thousands CZK)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2025** | **2026** | **2027** | **2028** | **Total** |
| Other operating costs | 674 | 999 | 1,023 | 783 | **3,479** |
| Investment costs | 0 | 0 | 0 | 0 | **0** |
| Personnel costs | 442 | 647 | 647 | 647 | **2,383** |
| Eligible costs from all funding sources | 1,116 | 1,646 | 1,670 | 1,430 | **5,862** |
| **of which special-purpose costs** | **1,116** | **1,646** | **1,670** | **1,430** | **5,862** |

3. Co-proposer - Part B - Breakdown of Financial Items This part of the proposal is to be filled in with the total estimated eligible costs of the project

(special-purpose costs + co-financing)!

**Other operating costs (in thousands CZK)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2025** | **2026** | **2027** | **2028** | **Total** |
| Material costs | 450 | 650 | 650 | 450 | **2,200** |
| Travel costs | 10 | 45 | 45 | 45 | **145** |
| Costs of other services | 30 | 30 | 50 | 50 | **160** |
| Overhead costs | 184 | 274 | 278 | 238 | **974** |
| **Total** | **674** | **999** | **1,023** | **783** | **3,479** |

**Total personnel costs (in thousands CZK)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2025** | **2026** | **2027** | **2028** | **Total** |
| Wages - Team | 304 | 456 | 456 | 456 | **1,672** |
| Wages - Others | 0 | 0 | 0 | 0 | **0** |
| Agreements | 33 | 33 | 33 | 33 | **132** |
| Scholarships | 0 | 0 | 0 | 0 | **0** |
| Others | 105 | 158 | 158 | 158 | **579** |
| **Total** | **442** | **647** | **647** | **647** | **2,383** |

**Personnel costs - Co-applicant and co-workers (in thousands CZK)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name, surname - job title / description of activities** | **S** | **Year** | **FT share** | **Wage** | **Remuner.** |
| **XXX**  coordination of the project, design experiments and participation in data evaluation, bioinformatics, selection of biomarkers and coordination of their validation and presentation of the results | N | 2025 | 0.20 | 96 | 0 |
| 2026 | 0.20 | 144 | 0 |
| 2027 | 0.20 | 144 | 0 |
| 2028 | 0.20 | 144 | 0 |
| **Name, surname - job title / description of activities** | **S** | **Year** | **FT share** | **Wage** | **Remuner.** |
| **XXX**  Processing of samples, Total RNA seq library preparations, RNA sequencing analyses and bioinformatical evaluation of total RNA seq data, presentation of results. | N | 2025 | 0.20 | 72 | 0 |
| 2026 | 0.20 | 108 | 0 |
| 2027 | 0.20 | 108 | 0 |
| 2028 | 0.20 | 108 | 0 |
| **Name, surname - job title / description of activities** | **S** | **Year** | **FT share** | **Wage** | **Remuner.** |
| **XXX**  WES and Total RNA Seq data analyses and their coordination, bioinformatical evaluation of data, presentation and publication of the project results | N | 2025 | 0.10 | 52 | 0 |
| 2026 | 0.10 | 78 | 0 |
| 2027 | 0.10 | 78 | 0 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | 2028 | 0.10 | 78 | 0 |
| **Name, surname - job title / description of activities** | **S** | **Year** | **FT share** | **Wage** | **Remuner.** |
| **XXX**  WES libraries preparation, WES seq data analysis, bioinformatics and integration of omics analyses, interpretation of outputs, suggestion of validation and presentation of project data. In silico validation in available public data and datasets. | N | 2025 | 0.10 | 36 | 0 |
| 2026 | 0.10 | 54 | 0 |
| 2027 | 0.10 | 54 | 0 |
| 2028 | 0.10 | 54 | 0 |
| **Name, surname - job title / description of activities** | **S** | **Year** | **FT share** | **Wage** | **Remuner.** |
| **XXX**  Isolation of samples, validation of crucial biomarkers and variants by PCR-based methods or Sanger sequencing, help with libraries preparation and sequencing procedures, presentation of project results. | Y | 2025 | 0.20 | 48 | 0 |
| 2026 | 0.20 | 72 | 0 |
| 2027 | 0.20 | 72 | 0 |
| 2028 | 0.20 | 72 | 0 |

**Personnel costs - Other personnel costs (in thousands CZK)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name, surname - job title / description of activities** | **S** | **Year** | **Number of hours** | **Amount** |
| Management of clinical data, databasis of NGS data and help with statistical analyses | N | 2025 | 100 | 33 |
| 2026 | 100 | 33 |
| 2027 | 100 | 33 |
| 2028 | 100 | 33 |

**Personnel costs - Social and health insurance/Other (in thousands CZK)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Type of cost** | **2025** | **2026** | **2027** | **2028** | **Total** |
| Social and health insurance, social fund | 105 | 158 | 158 | 158 | **579** |

3. Co-proposer - Part B - Justification of financial items

**Specification and justification of costs for 2025 Material costs**

We plan to use the material costs for the purchase of consumables, chemicals, and reagents (approx. 200 kCZK in the first year) for handling of samples, RNA/DNA and protein isoaltion kits, RNA/DNA/protein quality and quantity measurement reagencies. The other materiál costs (approx. 130 kCZK in the first year) will be used for purchase of reagencies, kits and consumables for NGS libraries preparation. In addition, the purchase of laboratory glassware, plastic, and other material for one-time use (approx. 100 kCZK e.g. nitrocellulose membranes, centrifuge tubes, tips, test tubes, gloves, etc.), technical gases and cooling media such as liquid nitrogen and dry ice will be covered. In addition, if necessary, small material assets needed for the solution of the project will be purchased, e.g. devices such as mini-centrifuges, incubators, shakers, electrophoretic and blotting devices, pipettes, storage containers for liquid nitrogen and dry ice (approx. 20 kCZK). In the second and third year of the project, material costs will be higher due to the WES sequencing, preparation of total RNA libraries and their sequencing.

**Travel costs**

In the first year of the project, travel expenses (10 kCZK) will be used to cover active participation of team members and presentation of pilot data in some of the domestic conferences (e.g. Toxcon, Oncology days, PragueONCO, Cancer Meeting etc.). In the coming years, we plan to use them to present the results at domestic and foreign conferences related to study issues in the field of NGS, molecular biomarkers of cancer diseases, pharmacogenomics, integromics and carcinogenesis in general (e.g. AACR, ESHG, ECCO, ASCO, FEBS, ISSX, EUROTOX, EEMS, MDO, P450 Meeting, TOXCON, Biochemical Congress etc.).

**Costs of other services**

In the first year, we plan to use other services and non-material costs (30 kCZK) to cover the expenses associated with transport of the samples, courier services, domestic congress fees, the operation, repairs, and maintenance of the property used in the project solution (including instrument calibration). In the following years, services and non-material costs will be used to cover printing posters for conferences and partially covering conference fees. Services will ba laso partly used for special NGS sequencing (e.g. NextSeq, NovaSeq platforms) or direct sequencing. The services of the PI of the project will cover publication costs.

**Overhead costs**

Make 20% of the total non-investment costs required from AZV (184 kCZK). They include the costs of energy, other services not mentioned above, and the costs of support staff, administrative costs, etc. incurred directly with the project's solution.

**Personnel costs**

We plan to use the personal costs for the salaries of the principal investigator and collaborators, incl. variable wage components according to the share of work on the project solution (440 kCZK). XXX (time 20%, 96 kCZK) will be responsible for coordination of the project, design experiments and participation in data evaluation, bioinformatics, selection of biomarkers and coordination of their validation and presentation of the results. As. XXX (time 10%, 52 kCZK) will be responsible for WES and Total RNA Seq data analyses and their coordination, bioinformatical evaluation of data, presentation and publication of the project results. XXX (time 10%, 36 kCZK) will be responsible for WES libraries preparation, WES seq data analysis, bioinformatics and integration of omics analyses, interpretation of outputs, suggestion of validation and presentation of project data and In silico validation in available public data and datasets. XXX (time 20%, 72 kCZK) will be responsible for processing of samples, total RNA seq library preparations, RNA sequencing analyses and bioinformatical evaluation of total RNA seq data, presentation of results. PhD student

M. Al Obeed Allah (time 20%, 48 kCZK) will be responsible for isolation of samples, validation of crucial biomarkers and variants by PCR-based methods or Sanger sequencing and he will help with libraries preparation and sequencing procedures, presentation of project results. Work performance agreements in total

33 kCZK in the first year will be used for pay for the management of patients, data, their statistical evaluation and management of NGS data. Social and health insurance levies (105 kCZK) were calculated as 34,8% of salary funds (1% contribution to FKSP included).

**Investment costs**

Investments costs are not requested.

3. Co-proposer - Part C - Bibliography

**Co-applicant:** XXX

**Co-proposer:** Charles University/Faculty of Medicine in Plzeň

**Full bibliographic data regarding the most important results of scientific and research activity as defined in the currently valid Methodology for Evaluating the Results of Research and Development**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Result** | **Code** | **Database** | **Citations** | **IF** |
| 1 | XXX. Targeted DNA  sequencing of high-grade serous ovarian carcinoma reveals association of TP53 mutations with platinum resistance when combined with gene expression Int J Cancer 2024, Mar 6; DOI:10.1002/ijc.34908 | Jimp | WoS | 0 | 6.400 |
| 2 | XXX.  Anticancer regimens containing third generation taxanes SB- T-121605 and SB T-121606 are highly effective in resistant ovarian carcinoma model. Frontiers in Pharmacology. 2022, 13, Art.no. 971905. J | Jimp | WoS | 0 | 5.600 |
| 3 | XXX.  Advanced technological tools to study multidrug resistance in cancer. Drug Resistance Updates. 2020, 48, Art.no.  100658. | Jimp | WoS | 42 | 18.500 |
| 4 | XXX. Association of superoxide dismutases and NAD(P)H quinone oxidoreductases with prognosis of patients with breast carcinomas. International Journal of Cancer. 2012, 130(2), 338-348. | Jimp | WoS | 35 | 6.158 |
| 5 | XXX.  Different in vitro metabolism of paclitaxel and docetaxel in humans, rats, pigs, and minipigs. Drug Metabolism and Disposition. 2004, 32(6), 666-674. | Jimp | WoS | 85 | 3.836 |

**Contribution to the field**

XXX has been working in the field of molecular biomarkers of cancer and new cancer therapeutics since 2001. She has published important studies in cooperation with foreign collaborators (e.g.WES sequencing – XXXV, LSA 2022, Integromics of DNA, RNA and methylome – XXX, Front Oncol 2022). Her cooperation with Stony Brook University in New York allowed her to be a part of preclinical

studies of new therapeutics as shown in several publications (XXX,Invest New Drugs 2012; XXX, iScience 2024). Participation in STRATAGEM consortium allowed her to be a part of european international team for study multidrug resistence in cancer (e.g. Drug Resistance Updates 2020). In 2021, she started to study renal cell carcinomas and their transcriptome. Till now, she published results of lncRNA and mRNA transcriptomes in mRCC (XXX, Oncol Letters 2023) and review on non-coding transcriptome profiling in RCC (accepted in Nature Reviews Urology, IF=15.3, 2024)

**Total number of results defined in the currently valid Methodology for Evaluating for Results of Research and Development for last 5 years**

|  |  |
| --- | --- |
| Jimp - Article in professional journal, impacted | 17 |
| D - Article in conference proceedings | 25 |
| Jimp2 - Article in professional journal, impacted | 3 |

**Total number of citations and WoK h-index**

|  |  |
| --- | --- |
| Number of citations (excluding self-citations) for all papers according to WoS | 1411 |
| h-index according to Web of Knowledge | 23.00 |

**History of international cooperation**

XXX (RV) started international training at University in Oslo with XXX. Kristensen in 2005 during her postgradual stay to study the role of genetic variability in prognosis and prediction of therapy outcome of solid tumors. Since 2006 she continues in cooperation with UiO (Norway) in projects (Postdoctoral project of RV 305/07/P347) and common publications (e.g. doi: 10.3389/fonc.2022.1016958, doi: 10.3390/genes14020296 etc.). Students of RV stay on their fellowships in UiO. Since 2005 RV has cooperated with prof XXX from Stony Brook University in New York (USA) on the topic of new chemotherapeutics of solid tumors. XXX has common publications with XXX (e.g. doi: 10.3390/ijms23010073, doi: 10.1016/j.isci.2024.109044 etc.) and common CZE-USA projects (LTAUSA19032 in years 2020-2023 and ongoing project LUAUS23164 in years 2023-2027). RV was also in years 2019-2022 member of EU Inter-COST CA 17104 project & STRATAGEM consortium.

3. Co-proposer - Part D - Information on Other Projects

**Co-applicant:** XXX

**Co-proposer:** Charles University/Faculty of Medicine in Plzeň

**Running projects**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **NU20-09-00174** - Význam genetického profilu ovariálního karcinomu v prevenci vzniku, rozvoje a suboptimální léčebné odpovědi onemocnění | | | | | |
| **Provider** | MZ0 - Ministerstvo zdravotnictví | | | | |
| **Programme** | NU - Program na podporu zdravotnického aplikovaného výzkumu a vývoje na léta 2020 – 2026 | | | | |
| **Field OECD** | 30101 - Human genetics | | | | |
| **Panel** | 09 - Public Health and Nursing | | | | |
| **Start date** | 5/1/2020 | **End date** | 12/31/2024 | **Spec.-purp. Support** | 4,940 thous. CZK |
| **Beneficiary** | Státní zdravotní ústav | | | | |
| **Role in prj.** | Applicant | **Full-time** | 0.20 | **Agreement** |  |
| **Relationship to the submitted proposal:** This project investigates the different tumor type. The relationship is only using of WES and RNA seq methods successfully optimized in this project. | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **LUAUS23164** - Cílené taxanové deriváty jako potenciální terapeutická možnost v léčbě rezistentních a vysoce agresivních forem nádorů | | | | | |
| **Provider** | MSM - Ministerstvo školství, mládeže a tělovýchovy | | | | |
| **Programme** | LU - INTER-EXCELLENCE II | | | | |
| **Field OECD** | 30104 - Pharmacology and pharmacy | | | | |
| **Start date** | 3/1/2023 | **End date** | 12/31/2027 | **Spec.-purp. Support** | 4,995 thous. CZK |
| **Beneficiary** | Univerzita Karlova / 3. lékařská fakulta | | | | |
| **Role in prj.** | Co-applicant | **Full-time** | 0.20 | **Agreement** |  |
| **Relationship to the submitted proposal:** No relationship | | | | | |

**Proposed projects**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **25-15357S** - Nové terapeutické cíle v překonání rezistence na oxaliplatinu u kolorektálního karcinomu | | | | | |
| **Provider** | GA0 | | | | |
| **Programme** | Standardní projekty 2025 | | | | |
| **Field OECD** | 30204 - Oncology | | | | |
| **Start date** | 1/1/2025 | **End date** | 12/31/2027 | **Spec.-purp. Support** | 5,438 thous. CZK |
| **Beneficiary** | Institut experimentální medicíny AV ČR | | | | |
| **Role in prj.** | Co-applicant | **Full-time** | 0.20 | **Agreement** |  |

**Relationship to the submitted proposal:** No relationship

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| **25-15969S** - Mysteries behind the precision therapy in ovarian carcinoma: a search for proper candidates by genomic profiling | | | | | |
| **Provider** | GA0 | | | | |
| **Programme** | Standardní projekty 2025 | | | | |
| **Field OECD** | 10608 - Biochemistry and molecular biology | | | | |
| **Start date** | 1/1/2025 | **End date** | 12/31/2027 | **Spec.-purp. Support** | 5,711 thous. CZK |
| **Beneficiary** | Institut experimentální medicíny AV ČR | | | | |
| **Role in prj.** | Team Member | **Full-time** | 0.10 | **Agreement** |  |
| **Relationship to the submitted proposal:** This project investigates the different cancer disease. The relationship is only using of the similar pipelines omics studies analysed during this project. | | | | | |

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| **25-15219S** - Deriváty luteolinu jako modulátory mnohočetné lékové rezistence | | | | | |
| **Provider** | GA0 | | | | |
| **Programme** | Standardní projekty 2025 | | | | |
| **Field OECD** | 10608 - Biochemistry and molecular biology | | | | |
| **Start date** | 1/1/2025 | **End date** | 12/31/2027 | **Spec.-purp. Support** | 4,644 thous. CZK |
| **Beneficiary** | Státní zdravotní ústav | | | | |
| **Role in prj.** | Applicant | **Full-time** | 0.20 | **Agreement** |  |
| **Relationship to the submitted proposal:** No relationship | | | | | |

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| **NW25-03-00150** - Biokompatibilní nanoléčiva s optimalizovanou farmakokinetikou pro moderní léčbu  pankreatických nádorů | | | | | |
| **Provider** | MZ0 | | | | |
| **Programme** | Program na podporu zdravotnického aplikovaného výzkumu na léta 2024-2030 | | | | |
| **Field OECD** | 30204 - Oncology | | | | |
| **Panel** | 03 - Malignancy | | | | |
| **Start date** | 5/1/2025 | **End date** | 12/31/2028 | **Spec.-purp. Support** | 3,586 thous. CZK |
| **Beneficiary** | Makromolekulární ústav AV ČR | | | | |
| **Role in prj.** | Team Member | **Full-time** | 0.10 | **Agreement** |  |
| **Relationship to the submitted proposal:** No relationship | | | | | |

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| **NW25-08-00180** - Vývoj nástrojů pro individualizaci terapie karcinomu pankreatu | |
| **Provider** | MZ0 |

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| **Programme** | Program na podporu zdravotnického aplikovaného výzkumu na léta 2024-2030 | | | | |
| **Field OECD** | 30401 - Health-related biotechnology | | | | |
| **Panel** | 08 - Biomedical technology | | | | |
| **Start date** | 5/1/2024 | **End date** | 12/31/2028 | **Spec.-purp. Support** | 5,241 thous. CZK |
| **Beneficiary** | Fakultní nemocnice Královské Vinohrady | | | | |
| **Role in prj.** | Team Member | **Full-time** | 0.10 | **Agreement** |  |
| **Relationship to the submitted proposal:** This project investigates the different cancer disease. The relationship is only using of the similar pipelines of bioinformatical evaluation of data during this project. | | | | | |

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| **NW25J-03-00103** - Využití molekulárních regulačních mechanismů jako biomarkerů prognózy a účinnosti  cytostatické léčby u karcinomu ovarií | | | | | |
| **Provider** | MZ0 | | | | |
| **Programme** | Program na podporu zdravotnického aplikovaného výzkumu na léta 2024-2030 | | | | |
| **Field OECD** | 30101 - Human genetics | | | | |
| **Panel** | 03 - Malignancy | | | | |
| **Start date** | 5/1/2025 | **End date** | 12/31/2028 | **Spec.-purp. Support** | 3,994 thous. CZK |
| **Beneficiary** | Lékařská fakulta v Plzni | | | | |
| **Role in prj.** | Team Member | **Full-time** | 0.10 | **Agreement** |  |
| **Relationship to the submitted proposal:** This project investigates the different cancer disease and it is focused on epigenetic regulation mechanisms of molecular biomarkers in ovarian carcinoma | | | | | |

**Completed projects**

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| **LTAUSA19032** - Studium vztahu mezi strukturou a funkcí nových taxanových derivátů v boji proti rezistenci nádorových buněk | | | | | |
| **Provider** | MSM - Ministerstvo školství, mládeže a tělovýchovy | | | | |
| **Programme** | LT - INTER-EXCELLENCE | | | | |
| **Field OECD** | 30204 - Oncology | | | | |
| **Start date** | 11/1/2019 | **End date** | 12/31/2023 | **Spec.-purp. Support** | 3,292 thous. CZK |
| **Beneficiary** | Státní zdravotní ústav se sídlem v Praze | | | | |
| **Role in prj.** | Applicant | **Full-time** | 0.20 | **Agreement** |  |
| **Evaluation** | Excellent (V/E/A) | | | | |
| **Relationship to the submitted proposal:** Minimal relationship, mRNA seq was optimized during this project. | | | | | |

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| **GA21-14082S** - Úloha Notch signální dráhy v mechanismu působení nových taxanových derivátů | |
| **Provider** | GA0 - Grantová agentura České republiky |

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| **Programme** | GA - Standardní projekty | | | | |
| **Field OECD** | 10608 - Biochemistry and molecular biology | | | | |
| **Start date** | 1/1/2021 | **End date** | 12/31/2023 | **Spec.-purp. Support** | 5,049 thous. CZK |
| **Beneficiary** | Státní zdravotní ústav se sídlem v Praze | | | | |
| **Role in prj.** | Applicant | **Full-time** | 0.20 | **Agreement** |  |
| **Evaluation** | Not yet evaluated | | | | |
| **Relationship to the submitted proposal:** Minimal relationship. WES seq technology was optimized during this project. | | | | | |

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| **LTC19020** - Identifikace nových diagnostických/prediktivních biomarkerů a sloučenin využitelných v individualizované terapii nádorů s mnohočetnou lékovou rezistencí | | | | | |
| **Provider** | MSM - Ministerstvo školství, mládeže a tělovýchovy | | | | |
| **Programme** | LT - INTER-EXCELLENCE | | | | |
| **Field OECD** | 30101 - Human genetics | | | | |
| **Start date** | 6/1/2019 | **End date** | 9/10/2022 | **Spec.-purp. Support** | 3,936 thous. CZK |
| **Beneficiary** | Státní zdravotní ústav se sídlem v Praze | | | | |
| **Role in prj.** | Applicant | **Full-time** | 0.20 | **Agreement** |  |
| **Evaluation** | Excellent (V/E/A) | | | | |
| **Relationship to the submitted proposal:** The nature and aims of this project were different. Individual omics pipelines were developed during this project. This project was predominantly support of our participation in the European Consortium STRATAGEM | | | | | |

Attachments

**Annexes attached to the project proposal**

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| --- | --- | --- | --- |
| **Type** | **File** | **Size** | **ID** |
| Curriculum vitae | CV-XXX.pdf | 155kB | 190,645 |
| Curriculum vitae | CV\_XXX\_EN.pdf | 98kB | 191,095 |
| Curriculum vitae | CV\_XXX\_2024\_06.pdf | 158kB | 193,210 |
| Curriculum vitae | CV XXX 2024-short.pdf | 450kB | 194,287 |
| Project description | Project\_Description.pdf | 860kB | 196,157 |
| Opinion of the ethics committee | Stanovisko EK\_XXX\_11.6.24.pdf | 298kB | 191,483 |
| Opinion of the ethics committee | MULTI-OMICES-RELAPS-stanovisko EK ze dne 6.6.2024 - čj. 130-24.pdf | 413kB | 194,279 |
| Patient's informed consent | 11-MOÚ souhlas-s-uchovavanim-a- pouzitim-nevyuzitych-zbytku- BBM\_ver.5.pdf | 369kB | 191,484 |
| Patient's informed consent | INS\_0594\_02.pdf | 292kB | 194,280 |
| Document/license for certain handling of genetically modified organisms and products | GMO\_MU\_PrF\_potvrzení o  oprávnění\_24348-2009.pdf | 184kB | 194,019 |
| Unsigned draft cooperation contract between the Applicant (Beneficiary) and the proposed other Participants | SMLOUVA O SPOLUPRÁCI.pdf | 368kB | 192,587 |
| Cooperation - future contract, letter of support, letter of intent etc. | Letter of Support AZV Vessela Kristensen.pdf | 556kB | 190,646 |
| Cooperation - future contract, letter of support, letter of intent etc. | LetterOfSupport\_Yansheng- Liu\_Phosphoproteomics.pdf | 128kB | 192,551 |

Statement

**Statement**

By submitting a project proposal, the proposer confirms they have read the tender documentation and undertakes to comply with its provisions, in particular that:

1. the applicant is in an employment relationship with the proposer, or this relationship will be established no later than the date of the start of the project;
2. they undertaketo fulfil all obligations of the beneficiary arising from Act No. 130/2002 Coll., the tender documentation and the concluded contract or the issued decision on the provision of support;
3. they ensure that the investigatorfulfils all his/her obligations after the conclusion of the project support contract, in particular to be responsible for the professional level of the project solution; if the situation arises that conditions on the part of the investigatoror the beneficiary make it impossible for the investigatorto continue the project solution within the proposed timeframe and if the project is not terminated, the beneficiary shall ensure, with the consent of the provider, another investigator, the continuation of the project solution and its completion in accordance with the concluded contract;
4. all information provided in the project proposal is true, complete and unadulterated and is identical to the information entered into the project proposal using the application, and that the project proposal has been prepared in accordance with the tender documentation;
5. all co-proposers, the applicant, the co-applicant and other collaborators mentioned in the project proposal have been informed of the substantive content of the project proposal, the financial requirements contained therein and the tender documentation;
6. prior to submitting the project proposal, secure the consent of the above-mentioned persons to participate in the project as described in the project proposal;
7. they have not accepted, are not accepting, and will not accept support from another source for another project with the same or similar topic;
8. the content of a project proposal involving the same applicant or co-applicant in other grant or program projects is different from this project proposal and the proposed scopes of work will allow the applicant or co-applicant to address all of their projects;
9. they agree that the data provided in the project proposal will be used for the internal use of the provider and published to the extent provided for by Act No. 130/2002 Coll. and the tender documentation;
10. in the event of the conclusion of a contract or the issuance of a decision on the provision of support for the project, the project will be governed by the terms and conditions for the project set out in the tender documentation;
11. if the recipient or another participant in the project acts as a research organization, they will use the dedicated support only for non-economic activities specified in point 19 of the Framework for State Aid for Research, Development and Innovation;
12. if the nature of the project requires it, the relevant authorizations under a specific legal regulation are attached.

The proposer also confirms that the above conditions have been met and that the information in the project proposal has been checked for completeness and accuracy.

The provider provides a checklist to help you complete the application. If the application does not comply with the requirements in the checklist ([Checklist-2024.pdf](https://mzd.gov.cz/wp-content/uploads/2024/05/Checklist-2024.pdf), [Checklist-2024-EN.pdf](https://mzd.gov.cz/wp-content/uploads/2024/05/Checklist-2024-EN.pdf)), the application will either not be accepted for the competition or will be excluded from the competition due to formal errors.

Only the last version of the project proposal that is received in the AZV mailbox by the regular deadline will be accepted for the evaluation of the competition.