

## ASSESSMENT

### of the international recognition of the candidate for appointment as a professor

according to part III point 6 of the Rector's Decision no. 1/2021, which regulates the procedure for obtaining scientific-pedagogical titles and artistic-pedagogical titles Associate Professor and Professor at Pavel Jozef Šafárik University in Košice and Art. 7 pt. 4 (a) b) Standards for the habilitation and inauguration procedure of the Slovak Accreditation Agency for Higher Education dated 2.7.2020:

#### I. Identification of the candidate for appointment as a professor

Name, surname, titles: Silvia Toporcerova, MD, PhD., EMBA, assoc. prof.,  
Date of birth: 20.09.1976  
Workplace: Pavol Jozef Šafárik University in Košice, Faculty of Medicine  
Workplace address: Trieda SNP c. 1, 040 11 Košice, Slovakia  
Position: Associate Professor at the Department of Gynaecology and Obstetrics  
  
ORCID ID / 0000-0003-3562-7703  
  
Area of habilitation proceedings and inaugural proceedings: Gynaecology and obstetrics

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#### Output identification 1:

An international patented technology was created from the analyzes described above: WO2021177904, PCT/SK2021/050004 A4, Non-invasive successfulness test of in vitro fertilization process, Authors: Rabajdová, M., Slabý, O., Šoltys, K., Mareková, M., Toporcerová, S.

#### Output identification 2:

„Small Non-Coding RNAs as New Biomarkers to Evaluate the Quality of the Embryo in the IVF Process“ Authors: Toporcerová, S., Špaková, I., Šoltys, K., Klepcová, Z., Kl'oc, M., Bohošová, J., Trachtová, K., Peterová, L., Mičková, H., Urdzík, P., Mareková, M., Slabý, O., Rabajdová, M. In: Biomolecules, vol. 12, 1687, 2022, (<https://doi.org/10.3390/biom12111687>), IF: 5,88, Q2.

#### Output identification 3:

„An In Vivo Model of Estrogen Supplementation Concerning the Expression of Ca<sup>2+</sup>-Dependent Exchangers and Mortality, Vitality and Survival After Myocardial Infarction in Ovariectomized Rats.“ Authors: Toporcer, T., Grendel, T., Špaková, I., Blichárová, A., Verbóová, Ľ., Benetinová, Z., Čižmárová, B., Rabajdová, M., Toporcerová, S. In: 2024, 11(11):352. (<https://www.mdpi.com/2308-3425/11/11/352>), IF: 2,4, Q2.

#### Output identification 4:

„Embryo secretome in predicting embryo quality and IVF treatment outcome.“ Authors: Toporcerová, S., Badovská, Z., Kriváková, E., Mikulová, V., Mareková, M., Altmäe, S., Rabajdová, M. In: Repromed Biomed Online, 2025, 51(1):104825. ([https://www.rbmojournal.com/article/S1472-6483\(25\)00032-X/fulltext](https://www.rbmojournal.com/article/S1472-6483(25)00032-X/fulltext)), IF: 3,7, Q1.

#### Output identification 5:

„New approaches in the analysis of spent embryo culture media in the IVF process.“ Authors: Badovská, Z., Dubayová, K., Smolko, L., Toporcerová, S., Lukáčová, I., Šeršeň, D., Mareková, M., Rabajdová, M. In: Sci Rep., vol. 11, 19086, 2021, (Arch Gynecol Obstet., 2025 Apr 28 doi: 10.1007/s00404-025-08017-3.)

#### Output identification 6:

„Concentration of trace elements in human semen and relation to spermatozoa quality.“ Authors: Slivkova, J., Popelkova, M., Massanyi, P., Toporcerova, S., Stawarz, R., Formicki, G., Lukac, N., Putala, A., Guzik, M. In: Nucleic Acids Res., vol. 19, 6676-92, 2016, (J Environ Sci Health A Tox Hazard Subst Environ Eng., 2009, 44(4):370-375. (<https://pubmed.ncbi.nlm.nih.gov/19184704/>), IF: 1,363, Q3

## II. Identification of the assessor - foreign expert

Name, surname, titles:	Prof. RNDr. Ondrej Slaby, Ph.D.
Date of birth:	15.6.1981
Workplace:	Faculty of Medicine, Masaryk university
Workplace address:	University Campus Bohunice, Kamenice 5, Brno, Czechia
Position:	Head of Department of Biology
Scientific focus / Research area:	human genomics
ORCID ID /	0000-0002-8450-0584
Number of outputs in WoS:	366
Number of citations in WoS (without self - citations):	9814
H index in WoS:	52

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## III. Assessment of the applicant's international recognition

### 1. Assess the international context of the applicant's published publications:

- ☒ The applicant's publication outputs are important in an international context
- ☐ The applicant's publication outputs are not important in an international context

**2. Assess the applicant's participation in foreign conferences and congresses in the field of his / her scientific and pedagogical activities:**

- ☒ The applicant participates in foreign conferences and congresses in the field of his / her scientific and pedagogical activities
- ☐ The applicant does not participate in foreign conferences and congresses in the field of his / her scientific and pedagogical activities
- ☐ I do not have relevant information

**3. Assess the citation response of the candidate's work in international journals:**

- ☒ Applicant's works are frequently cited in international journals indexed in WoS
- ☐ Applicant's works are not frequently cited in international journals indexed in WoS

**Final assessment:**

- ☒ the candidate meets the requirements to work as a professor in an international context
- ☐ the candidate does not meet the requirements to work as a professor in an international context

**Brief rationale:**

Dr. Silvia Toporcerova demonstrates a solid international research profile underpinned by both innovation and peer-reviewed output. The dossier documents an international patent (WO2021177904; PCT/SK2021/050004) for a non-invasive IVF success test, evidencing practical translational impact and multinational relevance. It also lists publications spanning reputable journals and quartiles in the candidate's fields, including Biomolecules (2022; IF 5.88; Q2) on small non-coding RNAs as embryo-quality biomarkers, Reproductive BioMedicine Online (2025; Q1) on embryo secretome and IVF outcomes, Scientific Reports (2021), and additional work in reproductive biology, indicating continuity, breadth, and collaboration across institutions. Dr. Toporcerova also actively participates in foreign conferences and has a substantive citation response in international, WoS-indexed journals, corroborating the candidate's visibility and engagement with the global scientific community. As of Web of Science, the candidate's bibliometric indicators comprise 22 publications, an h-index of 7, and 133 citations, which, when considered alongside the patent and consistent international dissemination, support the claim of sustained impact and recognition beyond the national context. Collectively, these elements justify the finding that the candidate meets the requirements to work as a professor in an international context.

Place: Brno

Date: 5.10.2025

Assessor's signature: ...