



BOOK OF ABSTRACTS

**First International Conference
on Medical, Pharmaceutical and Cosmetic Chemistry,
Household and Industrial Chemistry,
Forensic and Analytical Chemistry
Belgrade, Serbia 5 May 2026**

ChemInno ²⁰²⁶
When Science Meets Industry



65 YEARS OF EXCELLENCE
Institute
of General and Physical Chemistry



**First International Conference
on Medical, Pharmaceutical and Cosmetic Chemistry,
Household and Industrial Chemistry, Forensic and Analytical Chemistry
ChemInno 2026**

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*This book contains the abstracts of
8 plenary lectures
21 invited lectures
184 poster contributions,
accepted for presentation at
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Chemistry, Household and Industrial Chemistry, Forensic and Analytical Chemistry
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- 2. Pharmaceutical Formulations, Aesthetic Medicine*
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- 5. Sustainable Chemistry & Green Formulations*
- 6. Forensic & Analytical Chemistry*
- 7. Technological & AI-driven digital innovations*
- 8. Chemical Safety, Regulation, Standards & Knowledge Transfer*

Taxifolin inhibits endovascular differentiation of human trophoblast cells

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Taxifolin (TF) is a bioactive flavonoid with various pharmacological effects including antioxidant, anti-inflammatory, hepatoprotective and anti-cancer activities¹. It can be extracted from different coniferous trees, and it is present in various plants used in traditional medicine as well as in different commercially available health-promoting products¹. Also, TF can be found in vegetables, fruits and beverages used in everyday diet [1]. Previously, TF showed cytoprotective, antioxidant and anti-inflammatory activity on trophoblast cells, specialized cells of placenta [2,3], but its effect on function of these cells has not yet been studied. Successful pregnancy largely depends on adequate placentation including remodeling of uterine spiral arteries during which extravillous (EVT) trophoblast cells acquire endothelial-like properties.

The aim of this study was to investigate potential of TF to affect endovascular differentiation of trophoblast cells using human EVT HTR-8/SVneo cell line. We used tube formation assay on Matrigel to assess endothelial-like differentiation and qPCR to evaluate expression of vascular endothelial cadherin (VE-cadherin), adhesion protein important for trophoblast endovascular invasion and spiral artery remodeling [4]. Our results showed that preincubation with 10 or 100 μ M TF for 24 h significantly inhibited tube formation of HTR-8/SVneo cells in a concentration-dependent manner decreasing both tube length and number of branching points. Furthermore, TF downregulated expression of *CDH5* (VE-cadherin) indicating a possible mechanism of action.

Although further research is needed, our results indicate that TF could affect endovascular differentiation of trophoblast cells affecting functioning of placenta and consequently pregnancy outcome.

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