

# Answers to the reviewers

**Copper as an alternative antimicrobial coating for implants**

**Name of Journal:** *World Journal of Transplantation*

**ESPS Manuscript NO:** 31626

**Manuscript Type:** BASIC STUDY

Bergemann C *et al.* Copper-coated implants

**Claudia Bergemann, Sarah Zaatreh, Katharina Wegner, Kathleen Arndt, Andreas Podbielski, Rainer Bader, Cornelia Prinz, Ulrich Lembke, J Barbara Nebe**

**Corresponding author:** J. Barbara Nebe, University Medical Center Rostock, Dept. of Cell Biology, Schillingallee 69, Rostock, Germany, [barbara.nebe@med.uni-rostock.de](mailto:barbara.nebe@med.uni-rostock.de)

**Telephone:** +49-381-4947771

**Fax:** +49-381-4947764

## **Answers to the editors:**

Review 1)

This is a very interesting topic and very well-presented scientific research. The study design is solid and meticulously and flawlessly conducted, the results of this study can be very important to professionals who perform these procedures. However, the paper requires few minor editing to make the flow of the information more comprehensible and easy to digest, the introduction is too long and most of the information that was presented in these paragraphs can be moved to the discussion section. Otherwise most of the paper is very well-written.

Answer:

Thank you for this advice. We shortened the introduction and moved parts to the discussion.

Review 2)

Copper as an alternative antimicrobial coating for implants ? The manuscript is well-written in an engaging and lively style. ? The level is appropriate to our readership. ? The subject is very important. It is currently something of a “hot topic,” . We showed that TiCuN has a strong ability to kill planktonic bacteria as well as bacteria adhering as a biofilm, and after pre-incubation we found low cytotoxicity. In the “title should be added in vitro the paper would be significantly improved with the addition of more details about limitations of study ... It should highlight the strengths and weaknesses.

Answer:

Thank you for this advice. We completed the title to: “Copper as an alternative antimicrobial coating for implants – an *in vitro* study”. We improved the manuscript by adding a phrase about the limitations of study as follows: “In the study presented here we could show that TiCuN coating on TPS-optimized titanium combines a rough TPS surface with the antibacterial function of copper ions while maintaining the excellent properties required for good osteoblast cell growth. Our data were acquired by *in vitro* experiments, investigating processes within the first 48 hours of material cell contact with osteoblast-like MG-63 cells. In future research, data will be verified by *in vitro* analyses after longer periods of time and with primary osteoblasts. In an animal study, we will examine the *in vivo* acceptance of the TiCuN and BONIT® coating on TPS-optimized titanium implants.”.

Review 2)

The manuscript is a high quality work. 1-2 phrases about the limitations of the study may be added. Regards.

Answer:

Thank you for this advice. We improved the manuscript by adding a phrase about the limitations of the study as follows: “In the study presented here we could show that TiCuN coating on TPS-optimized titanium combines a rough TPS surface with the antibacterial function of copper ions while maintaining the excellent properties required for good osteoblast cell growth. Our data were acquired by *in vitro* experiments, investigating processes within the first 48 hours of material cell contact

with osteoblast-like MG-63 cells. In future research, data will be verified by *in vitro* analyses after longer periods of time and with primary osteoblasts. In an animal study, we will examine the *in vivo* acceptance of the TiCuN and BONIT® coating on TPS-optimized titanium implants.”.

# Answers to the reviewers

**Copper as an alternative antimicrobial coating for implants**

**Name of Journal:** *World Journal of Transplantation*

**ESPS Manuscript NO:** 31626

**Manuscript Type:** BASIC STUDY

Bergemann C *et al.* Copper-coated implants

**Claudia Bergemann, Sarah Zaatreh, Katharina Wegner, Kathleen Arndt, Andreas Podbielski, Rainer Bader, Cornelia Prinz, Ulrich Lembke, J Barbara Nebe**

**Corresponding author:** J. Barbara Nebe, University Medical Center Rostock, Dept. of Cell Biology, Schillingallee 69, Rostock, Germany, [barbara.nebe@med.uni-rostock.de](mailto:barbara.nebe@med.uni-rostock.de)

**Telephone:** +49-381-4947771

**Fax:** +49-381-4947764

## **Answers to the editors:**

- 1 Overlapping text passages were revised.
- 2 References were checked and the order was corrected.
- 3 PMIDs and DOI numbers were checked and added if available.

Best regards

Claudia Bergemann