1 - Please, analyze the progress of the project, the results and publications resulting from it.

(Comments, criticisms and suggestions have been helpful in improving projects.)

The overall goal of our project is to develop microneedles for painless delivery of lidocaine, a local anesthetic into the mouth tissues for use in dental procedures to numb local tissues. The study is to be entirely done in humans in two stages.

We have encountered some setbacks: (i) Since it is a human study, it took more than a year to get approval to perform these studies, and (ii) Due to strict import control, it was hard to ship microneedle devices to Brazil.

At the moment the shipping issues seem to have been resolved. We are currently doing preliminary studies in humans in Brazil. Microneedle insertions into the mouth tissue are being performed to establish the protocol and to troubleshoot any unexpected problems. Once the protocol is established we hope to start the full study.

Although we have experienced delays, but we are now moving at a fast pace.

The results of this study will have important implications in the field of dental anesthesia.

2 – If resources have been granted for participation in scientific meetings, please review the relevance of the work presented.

Work has not been presented yet since we are still performing the studies.

3- Participation in scientific or technological meetings

Does the importance of the meetings justify the expenses listed in the report?

[ ] Yes [ ] No  NOT APPLICABLE since experiments are still being done

Was there participation in congresses without presentation of work?

[ ] Yes [ ] No

If so, please discuss the exceptional conditions justifying such expenditure.

4 – Visits to the Brazilian partner

Was the visit of appropriate duration?

[ ] Yes [ ] No
**Did the Brazilian partner dedicate enough attention for scientific discussion during the visit?**

[ ] Yes  [ ] No

If not, please comment on it.

**Did the outcome justify the visit?**

[ ] Yes  [ ] No

If no, please comment on it?

In the case of other participants in the research proposal (professors or postdocs) who also visited the Brazilian partner. Did the outcome justify the visit?

[ ] Yes  [ ] No

If no, please comment on it?

**I HAVE NOT YET VISITED MY COLLABORATOR IN BRAZIL. I EXPECT TO DO SO WHEN WE HAVE ENOUGH PROGRESS MADE TO DISCUSS AND ANALYZE THE DATA.**

### 5. Final Analysis

[ ] Progress Report Approved

[ ] Progress Report Approved with criticisms or suggestions that should be considered in the next scientific report

[ ] Progress Report not Approved

[ ] Final Report Approved

[ ] Final Report Not Approved

**INFORMATION FOR THE EXCLUSIVE USE OF TTU**

The content of the previous items may, at TTU’s discretion, be sent in full to the PI. If you wish to add information considered important for TTU to support your decision and should not be transcribed to the PI by its confidential nature, include them in this space.
I declare that there is no circumstance characterizing a situation of potential conflict of interest or that it may be perceived as an impediment to an exempt opinion. I undertake to keep confidential all the information in this case, in particular my advisory status and the content of this report.

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