Reviewer's report

**Title:** Nitric oxide—an endogenous inhibitor of gastric acid secretion in isolated human gastric glands

**Version:** 1  **Date:** 18 February 2004

**Reviewer:** Lars Fandriks

**Reviewer's report:**

**General**
The authors report that NO acts inhibitory on acid secretion in isolated human gastric glands. The method used is well-established and experimental procedures are skillfully performed. However, the number of experiments are generally low and no statistical analysis is presented. It follows that I am very concerned about the statistical robustness of the reported data in relation to the conclusions drawn.

**Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)**

Statistical significance of stated effects are not analysed. For example, in Results L-arg is stated to decrease the AP ratio but when consulting Fig 2a the effect is not obvious, at least not in comparison to SNP. Furthermore, fig 2b shows convincingly that administration of the NOS-inhibitor L-NAME was associated with increased AP ratio indicating an inhibitory action by NO. No effect was obtained in presence of D-NAME. However, only two such D-NAME experiments were performed. At least a doubling of the number of these experiments has to be done in order to convince me that the isomer was without effect. If this is the case, such a stereospecificity will strengthen strongly the assumption that NOS mediated NO formation inhibits the acid secretion in this preparation. Also the db-cAMP experiments are very few (n=2 or 3) thus being a weak basis for the conclusions. Although the paper is mainly confirmative some more experiments are needed together with a proper statistical analysis before it could be considered for publication.

**Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)**

1. **Background:** The references to NO mediated influence on duodenal and gastric bicarbonate secretions (ref 9, 10, 11) are not entirely correct. Please revise.

2. All secretory data are given as % of maximal secretion in response to histamine or db-cAMP as calculated separately for each individual. Please state in text if this calculation was based on single analysis or duplicate, triplicates ?

3. **Immunohistochemistry:**
   Please state in how many of the individuals this analysis was performed and that preparation in absence of the primary antibody was unstained. . Other isoforms of NOS were not analysed; Please include in Discussion the reasons.

**Discretionary Revisions (which the author can choose to ignore)**
What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes

Declaration of competing interests:
None