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## REVIEWER'S REPORT

**Manuscript No.: IJAR-54553** **Date: 29-10-2025**

**Title: The Scientific Value of Proton-Dependent Regulation in the Absence of the Ambaga Closed 9-Stepped Cycle of Proton Conductance .**

**Recommendation:**

Accept as it is …… ……

Accept after minor revision……

Accept after major revision ……

Do not accept (*Reasons below*) ……

| Rating | Excel. | Good | Fair | Poor |
|---|---|---|---|---|
| Originality | ✓ | | | |
| Techn. Quality | | ✓ | | |
| Clarity | | ✓ | | |
| Significance | ✓ | | | |

**Reviewer Name: Dr. Amina**

## Reviewer's Comment for Publication.

This paper presents a **theoretical and integrative analysis** of proton-dependent regulation in biological systems, emphasizing the limitations of classical bioenergetic models (Mitchell, Boyer, Walker, Lane) in the absence of the **Ambaga Closed 9-Stepped Cycle of Proton Conductance (C9SCPC)**. The study is highly original in its **conceptual synthesis**, bridging molecular bioenergetics, systemic physiology, and quantum biological perspectives.

The author demonstrates a strong command of both **historical and theoretical frameworks** of proton flow and energy transduction, identifying the lack of systemic closure in earlier models. The introduction of the Ambaga cycle as a **unifying paradigm** that ensures proton–electron bookkeeping, cross-system coupling, and energy conservation across biological scales is a significant conceptual advancement.

The **comparative analysis** between classical theories and the Ambaga model is methodically presented, with clear tabular distinctions that enhance comprehension. The discussion effectively conveys the **philosophical and scientific implications** of a closed proton conductance system, linking biochemistry to physiology and even quantum biology.

However, before publication, a few **minor revisions** are advised:

1. **Abstract:** Condense slightly to improve readability and highlight the novel contribution of the study.

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2. **Figures and Tables:** Some illustrations (especially the 9-step cycle) could benefit from clearer labeling, stage numbering, and captions for accessibility.
3. **Language:** Minor grammatical edits and formatting adjustments are recommended to enhance flow and professional polish.
4. **References:** Add more detailed citations for Ambaga's previous works and related literature to support the historical claims.

In conclusion, the manuscript is **scientifically valuable, original, and thought-provoking**. It successfully contextualizes proton-dependent regulation within a holistic, closed systemic framework. After minor stylistic and formatting corrections, this work is strongly **recommended for publication**.