Dynamic Modeling of Human Complement System using Reduced Ordered Models

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Running Title: Dynamic Modeling of Human Complement System using Reduced Ordered Models

To be submitted: *???????*

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Abstract

Fill me in.

Keywords: Biochemical engineering, systems biology, reduced order models, complement system

Introduction

The introduction has three paragraphs (introduction no longer than 3 pages):

1. **First paragraph**: Introduce human complement system, history, role in adaptive/innate immunity.

2. **Second paragraph**: Introduce mathematical models of complement system, current place in the field, our work was not possible without xyz who pioneered abc. Address shortcomings in the field .

3. **Third paragraph**: In this study, [Repeat the abstract with some additional detail]. Taken together, [killer statement].

Results

The results are presented in **past tense**. Each paragraph starts with a statement of the result in that paragraph in active voice. Each results paragraph ends with a Taken together type statement followed by a link statement e.g., Next we considered etc. When referring to figures, state what the figures shows (Fig. ZZ).

Discussion

The discussion has three (sometimes four) paragraphs:

1. **First paragraph**: Present a modified version of the last paragraph of the introduction. In this study, [...]. Taken together, [killer statement]

2. **Second paragraph**: Contrast the key findings of the study with other computational/experimental studies

3. **Third paragraph**: Present future directions. If you had more time, what would like to do? Highlight the key shortcomings of the approach and how will we address them in the future. In this case, we will have a scaling issue if we extend to genome scale. We should extend to dynamic cases, and we need to experimentally validate the findings.

Materials and Methods

1. **Model formulation**: Present the reduced order modeling approach of the human complement network, . Outline parameter estimation, and state all parameter assumptions, sensitivity analysis

Acknowledgements

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References

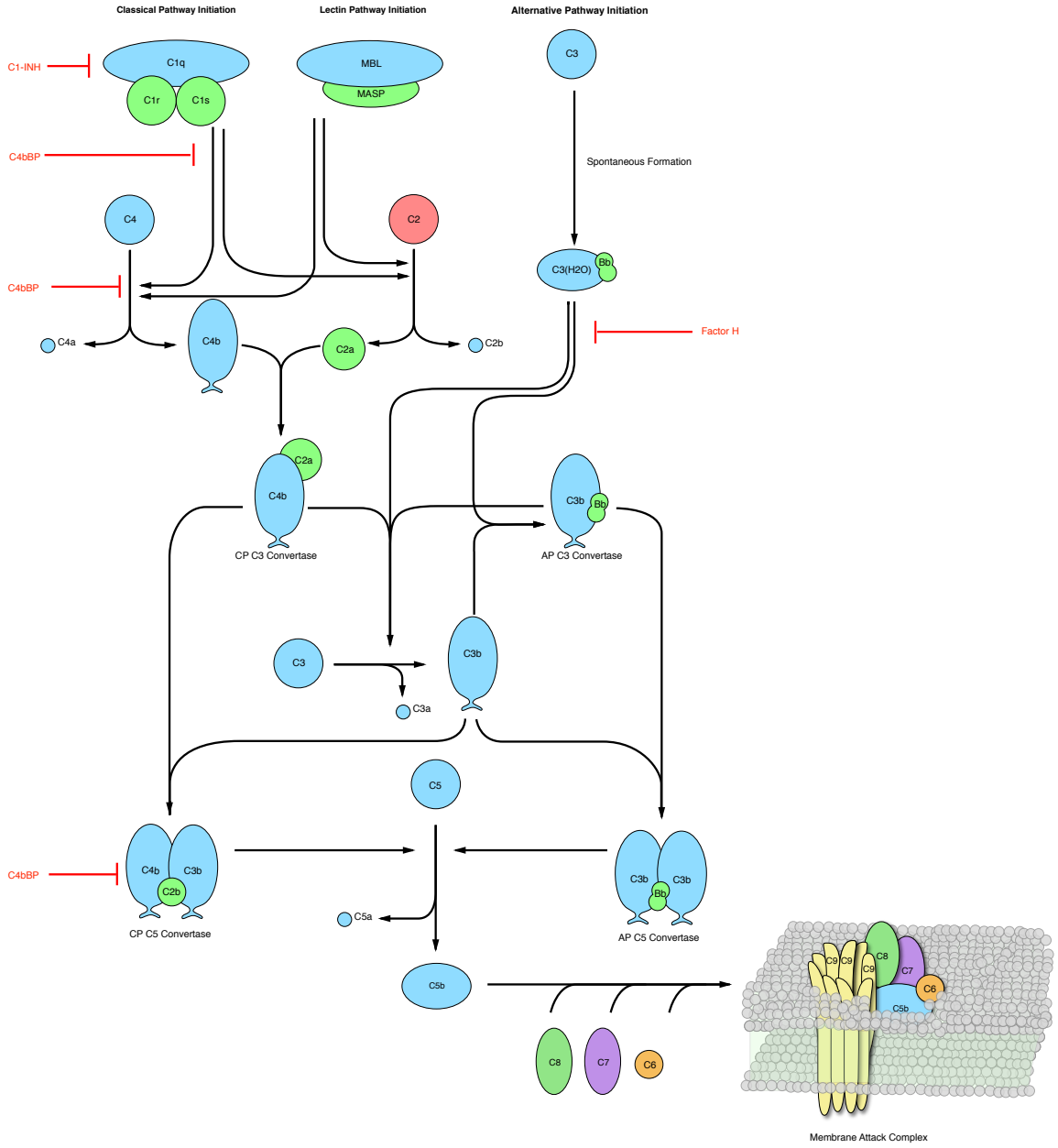

Fig. 1: The biochemical reactions of the complement system.