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| **Introduction** | The information is not provided (0%) | The information is suggested but not clearly stated and or is incomplete. (75%) | The indicated information is clearly stated and well integrated into the writing (100%) |
| goal of the research |  |  |  |
| Includes information about the TRP1 gene, including the enzyme coded, what that enzyme does and what mutating it will cause. |  |  |  |
| Includes information about CRISPR – required components, why we are using it |  |  |  |
| Yeast – why we are using them? |  |  |  |
| Summary of overall process |  |  |  |

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| **Materials and Methods:**  Include procedure and reagents of each of the following. | No procedure or reagents are listed (0%) | Procedures and/or reagents are missing (50%) | Some procedure or reagents are missing (75%) | All procedures and reagents are included (100%) |
| sgRNA and template design –   1. how these were designed, listing databases (with citations) 2. parameters |  |  |  |  |
| Cloning –   1. Oligo annealing 2. Restriction digest of pML104 3. Ligation 4. Transformation 5. selection of *E. coli* |  |  |  |  |
| Plasmid isolation |  |  |  |  |
| Yeast transformation   * 1. genotype of yeast strain,   2. controls,   3. template sequence   4. selection |  |  |  |  |
| Phenotyping   * 1. controls   2. Plates and selection |  |  |  |  |

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| **Results** | No text description of the experiments, rationale or results. (0%) | Significant elements were missing including the rationale and/or a description of the experimental outcome. (50%) | An explanation of the experiment and results were provided, but the experiment was not connected to other experiments. OR significant portion of the experimental outcomes were missing. (75%) | Explained how the experiment was done (basic overview), the rationale behind each step and described the results completely while only referring to figures. All elements were connected together. (100%) |
| sgRNA and template design   * 1. results should include the sequence of template and guides.   2. rationale behind parameters (sgRNA near the beginning of the gene, frameshift mutation, ect) |  |  |  |  |
| Cloning  Transformation and selection of *E. coli* (should show plates, or describe negative results) Description of results and controls |  |  |  |  |
| Yeast transformation  Results should include picture of the plates and/or description of a negative result. Description of results and controls |  |  |  |  |
| Phenotyping  Results should include picture of plates. Description of results and controls |  |  |  |  |

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| **Discussion** | 0% | 75% | 100% |
| Draw conclusions from the results of above experiments.   1. Did the results meet expectations? 2. Provides an explanation of results that do not meet expectations | Faliled to draw appropriate conclusion or discuss outcomes. | Included no discussion of unexpected results but drew conclusions from the outcome of the experiment overall. | Discusses if the results met expectations and provided an explanation of results when they did not meet expectations. Also, drew clear conclusions from the outcome of the experiment. |
| Future directions discussion:  Genotyping and/or further expectations. | No discussion of future directions or genotyping. | Included a discussion of future directions, but and mentioned genotyping but did not outline expected outcomes. | Included a discussion of future directions that included genotyping experiments and expected outcomes. |

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| **Technical** | This aspect has not been considered throughout the document (0%) | Throughout the document, there are times when this aspect has been considered, but a significant amount where it has not. (75%) | Described technical considerations are present and correct throughout the document. (100%) |
| Figures.  -Labeled with title and figure legend  -Legend describes figure fully, without help from the text |  |  |  |
| Nomenclature  -Genes are designated appropriately (italics and uppercase where WT, and lowercase where mutant)  - Genus and species appropriately italicized and defined |  |  |  |
| Grammar and presentation  -Appropriate headings and page numbers are used  -The page length is not excessive or too short. |  |  |  |