Battling the Bloodsuckers: Examining the Expression of OBP23 in the Yellow Fever Mosquito

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I.S. Symposium 2023

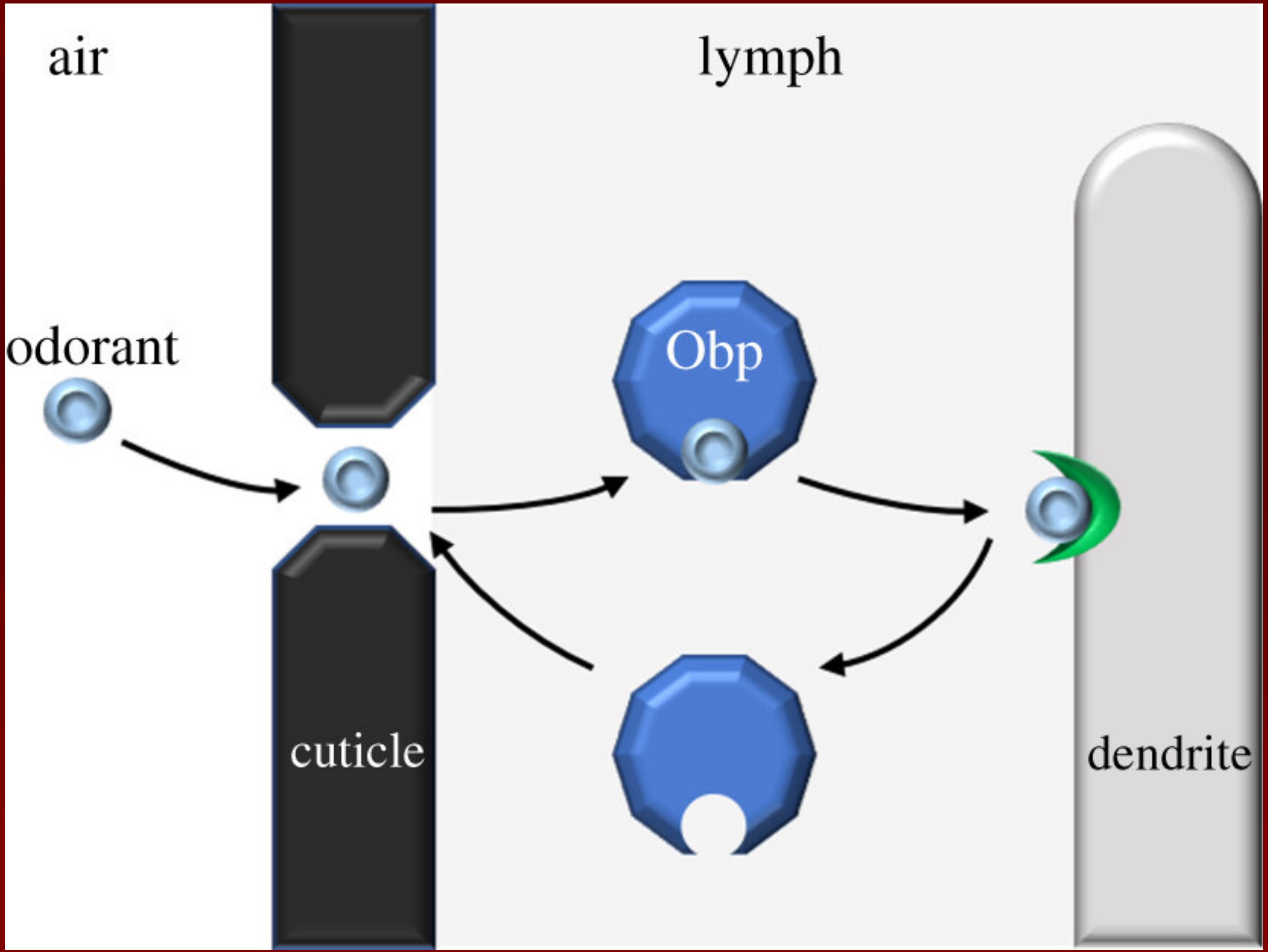
400, 000, 000	Infected	Dengue
40, 000	Dead	
350, 000	Infected	Chikungunya
200, 000	Infected	Yellow Fever
30, 000	Dead	

Ae. aegypti as an Organism

Current Control Strategies and their Implications




Odorant Binding Proteins and Olfaction

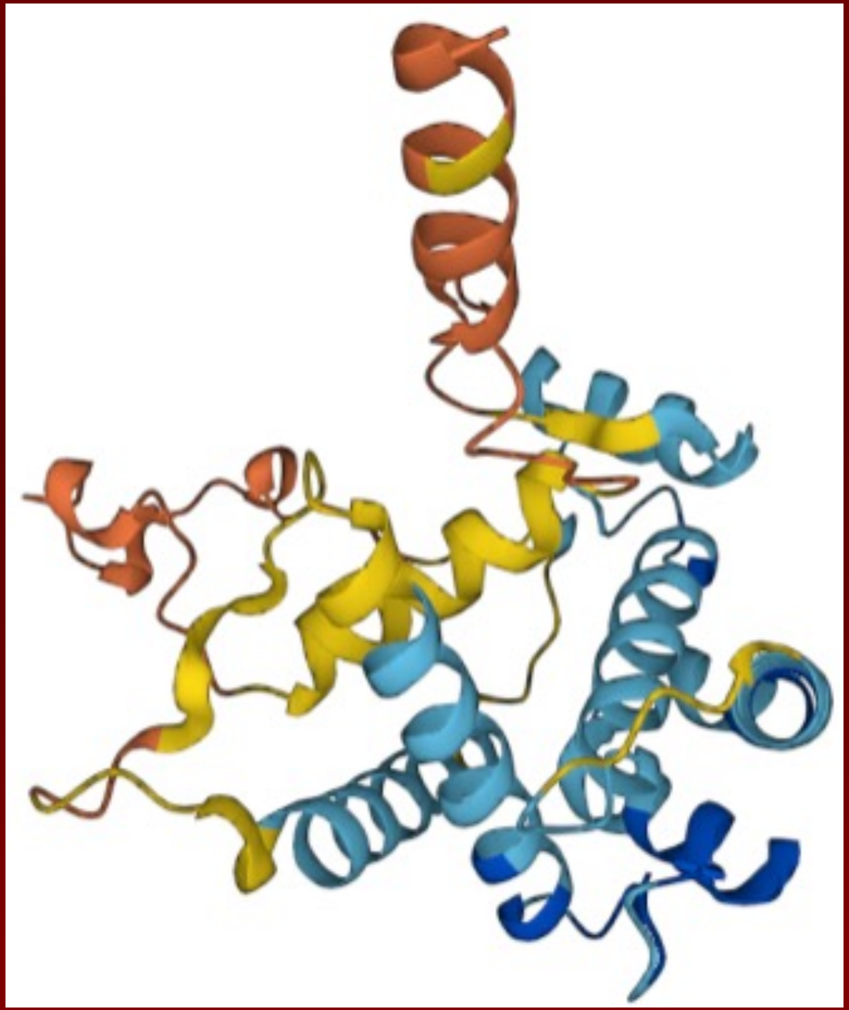


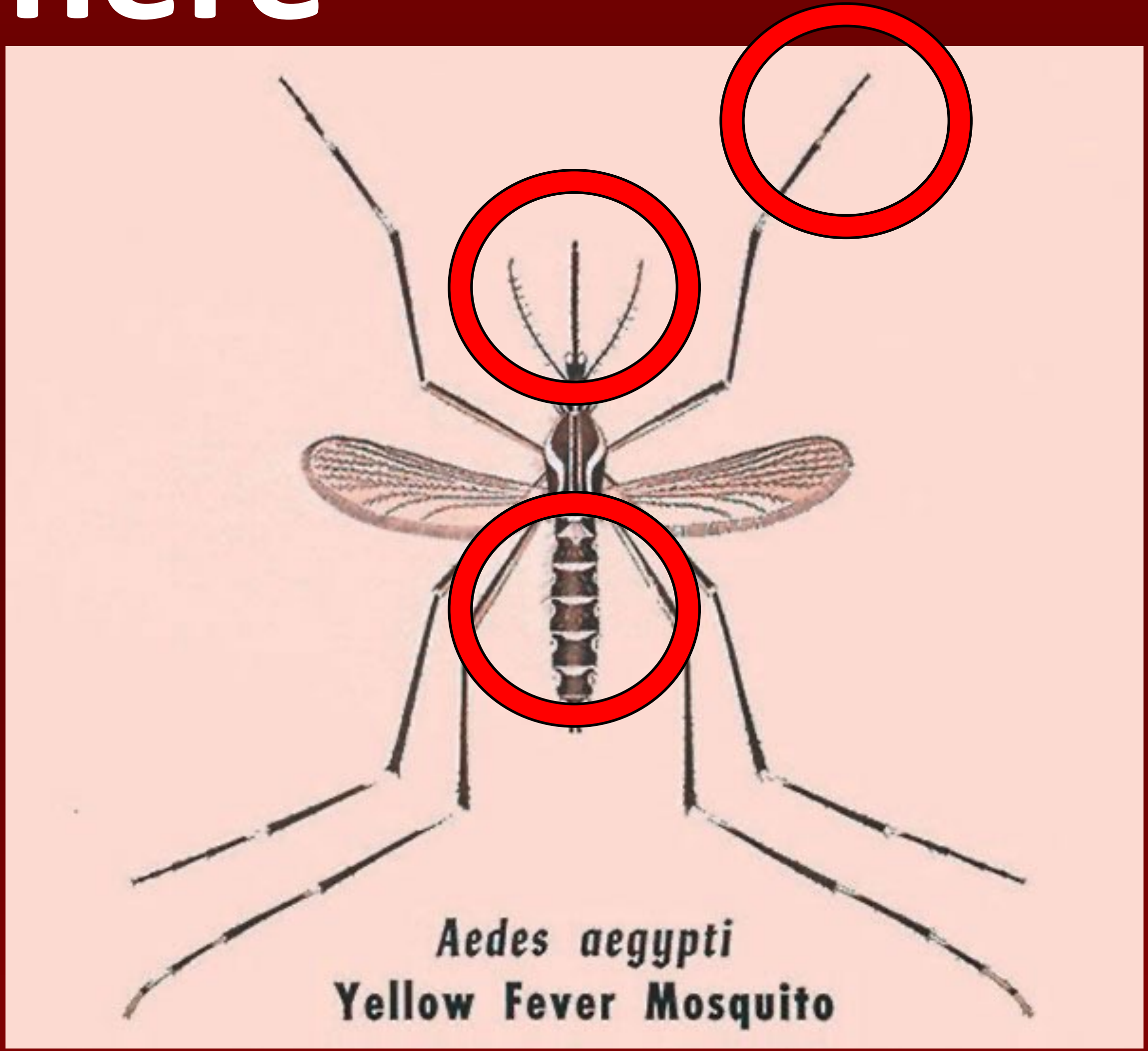
Hosts

Mates

Oviposition Sites

OBP23: The Who, What, and Where





My Research and the Gap in Knowledge

Find changes in OBP23 gene expression

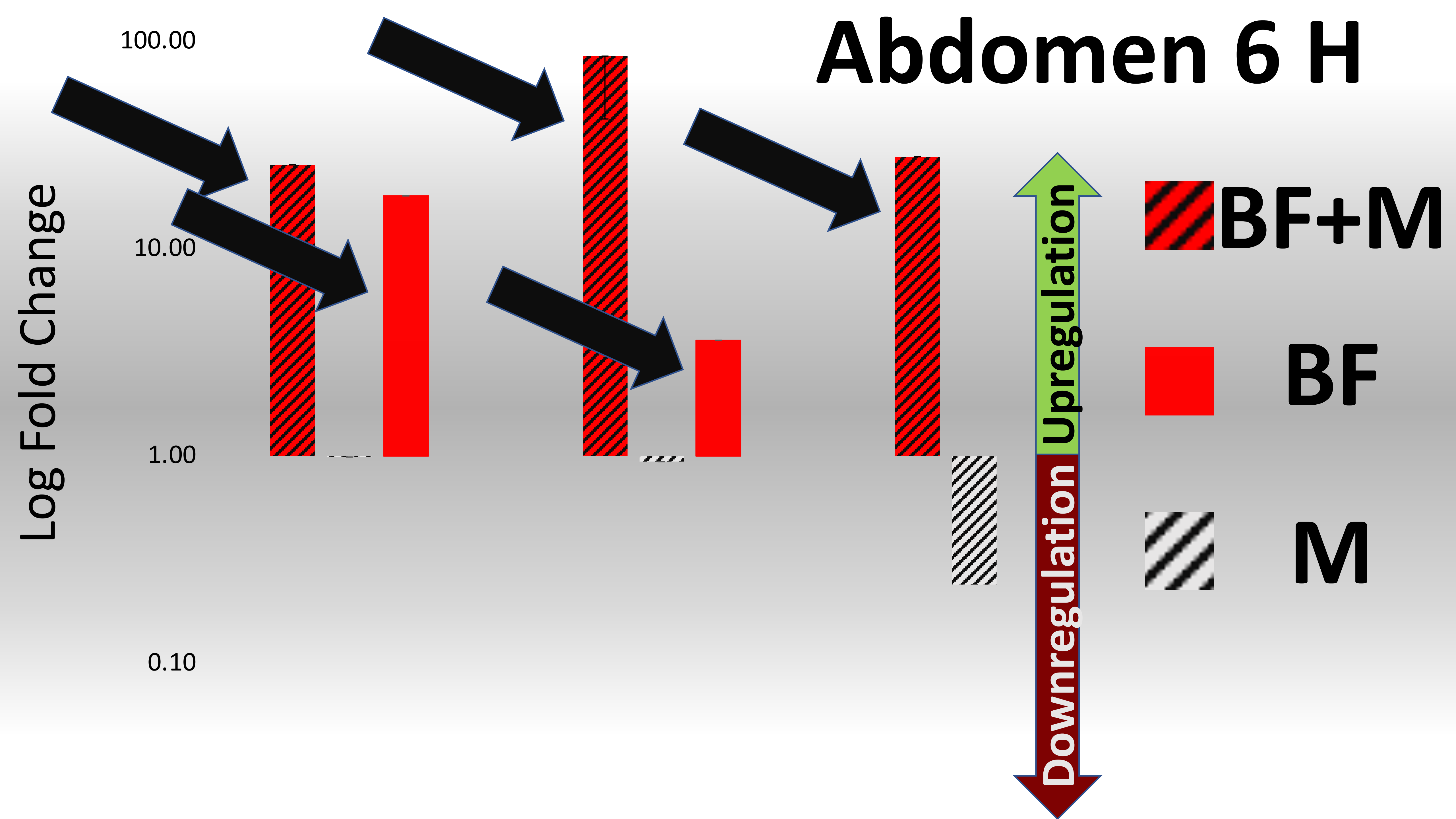
- Blood-feeding
- Mating

Where gene regulation occurs

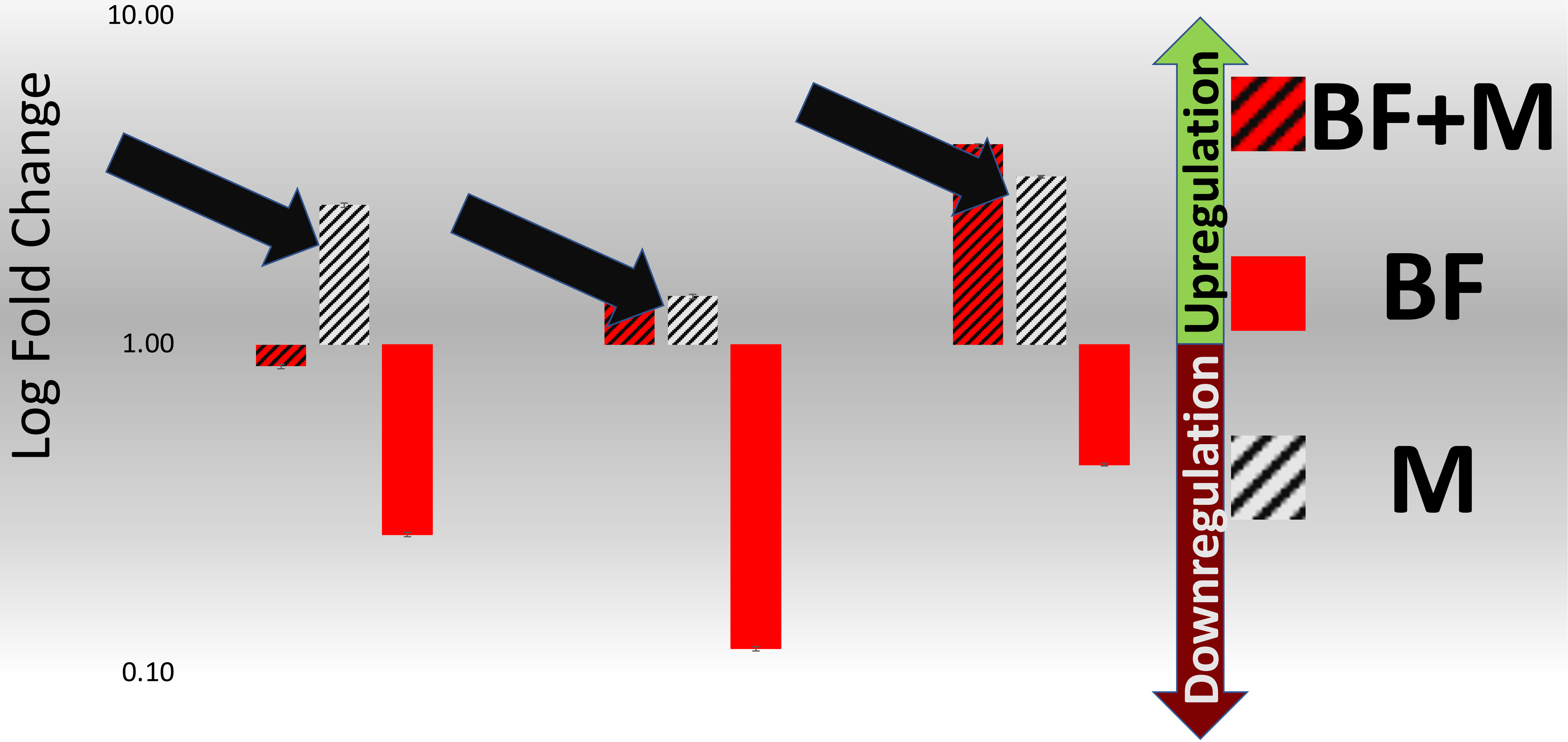
Propose functions and establish importance

Methodology and Timeline

1. Rearing
2. Treatment
3. Dissection
4. RNA Extraction
5. Quantification


Abdomen 6 H
Log Fold Change
100.00
10.00
1.00
0.10
Upregulation
Downregulation
BF+M
BF
M

Reproductive Tract 24 H



Recap

OBP23 is UPREGULATED upon blood feeding in the abdomen

OBP23 is UPREGULATED upon

blood feeding + mating in the abdomen

OBP23 is UPREGULATED upon mating in the reproductive tract

What does all of this mean?

Speculation

vs.

Educated Prediction

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My cat Luna

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