# Materials and Methods

# Drosophila stocks

All the experiments were performed on wild type isogenic Oregon-R. The stocks were maintained at 25°C on 12 hour light: 12 hour dark cycle in temperature-controlled room. Cornmeal, sucrose and yeast medium (Section 2.2.1) was used for stock maintenance. Adult flies (30-50 flies per bottle) were kept on 8-10 media bottles for 4 days to lay eggs and then discarded to avoid overcrowding. After 3-4 days of eclosion, newly emerged flies were transferred to fresh media bottles. Therefore, at every batch flies were inter-generationally crossed.

# Drosophila food media

* + 1. Cornmeal, sucrose and yeast medium

The media components are listed in the table

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| --- | --- |
| **Ingredients** (1 litre media) |  |
| Cornmeal powder (generic) | 51 grams |
| Sucrose (Himedia #MB025) | 51.3 grams |
| Yeast powder (generic) | 8 grams |
| Agar (Himedia #CR301) | 8 grams |
| Methyl 4-hydroxybenzoate (Merck #106757) | 2.5 grams dissolved in 10 ml of ethanol |
| Propionic acid (Himedia #GRM3658) | 6 ml |

Add agar to 500 ml of distilled water, boil it till agar dissolves then add the sucrose to agar/water mix. Meanwhile dissolve yeast powder and cornmeal powder bit by bit, continuously stirring (to avoid lumps) in 400 ml of distilled water and boil it. Mix both the mixtures, bring it to boil and add distilled water to make the volume to one litre. Allow media to cool below 60 °C and then add Methyl 4-hydroxybenzoate solution and propionic acid. Stir it well. Pour the media in the bottles (25ml each) or in the vials (5ml each). Keep it at room temperature overnight, plug it and then store at 4 °C for long term storage.

* + 1. Semi-defined medium

All the experiments were performed on semi-defined medium.

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| **Ingredients** (1 litre media) |  |
| Sucrose (Himedia #MB025) |  |
| Control diet | 51.3 grams |
| High-sugar diet | 342 grams |
| Yeast powder (generic) | 80 grams |
| Yeast extract (Himedia #RM027) | 20 grams |
| Peptone (Himedia #RM001) | 20 grams |
| Magnesium sulphate heptahydrate | 0.5 grams |
| Calcium chloride dehydrate | 0.5 grams |
| Agar (Himedia #CR301) | 10 grams |
| Methyl 4-hydroxybenzoate (Merck #106757) | 2.5 grams dissolved in 10 ml of ethanol |
| Propionic acid (Himedia #GRM3658) | 6 ml |

# Basic methods and animal husbandry

# Metabolic measurements

## Hemolymph free-glucose

## Triglycerides

# RNA extraction

# Microarray

# Bioinformatics