**Genomic DNA (20 flies)**

* Anesthetize 20 living flies (mixed sexes)
* Put the flies into a tube containing 1 mL 100% ethanol
* Use flies immediately or store at -20oC
* Pour flies into clean mortar, and remove the ethanol
* Pour liquid nitrogen over the flies
* Carefully grind flies up with pestle
* Pour more liquid nitrogen over the flies
* Add 1 mL Lysis buffer
* Keep grinding
* Let ice melt and move liquid equally into 2 2-mL tubes
* Add 1 more mL of Lysis buffer to wash mortar
* Add liquid equally to the 2 2-mL tubes
* Add 2 uL DNAse-free RNAseA (10 mg/mL) to each tube, mix by inverting a few times
* Incubate for 30 min at 37 oC
* Add 40 uL Proteinase K (20 mg/mL) to each tube
* Mix by inverting a few times, and incubate at 50 oC for 2 hours, mixing every 30 min
* Centrifuge 20 min at maximum speed, (proceed to next step)
* Equilibrate a Qiagen “Genomic tip 20/G” column with 1 mL QBT
* Transfer cleared lysate from both tubes to the column, let completely run through
* Wash 4 x with 1 mL Buffer QC
* Elute genomic DNA with 800 uL buffer QF, collect gDNA in a 1.5 mL tube
* Add 560 uL 100% isopropanol (RT)
* Mix by inverting a few times, gDNA precipitate is often visible
* Spin for 30 min at 4 oC at full speed
* Wash DNA pellet with 1 mL 70% ethanol (made from 100% ethanol!)
* Remove ethanol from pellet (pipette)
* Air-dry gDNA pellet for 15 min
* Resuspend in 50 uL 1 x TE buffer, mix by gently pipetting, store at 4 oC