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| Figure 1B |  WT |  s*agd1* |
| Spec. | Number of *isl2b:Gfp*+ SAG cells - Anterior |  24h 30h 36h 48h  |  24h 30h 36h 48h  |
| 1234 | 454930 | 958561 | 7984 | 9311083114 | 142212 | 342726 | 5361 | 4965 |
| 123 | Number of *isl2b:Gfp*+ SAG cells - Posterior | 1061 | 91911 | 2326 | 3325 | 200 | 91314 | 2318 | 2535 |

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| Figure 1G |  WT |  s*agd1* |
| Spec. | Number of *ngn1*+ cells inside otic vesicle |  18h 20h 24h 28h 30h 36h  | 18h 20h 24h 28h 30h 36h |
| 123456 | 424641 | 476856 | 466352 | 282720 | 525201424 | 512711 | 3724 | 51483054 | 31301720 | 1514 | 131610151121 | 699 |

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| Figure 1H |  WT |  s*agd1* |
| Spec. | Number of *ngn1*+ cells outside otic vesicle |  18h 20h 24h 28h 30h 36h  |  18h 20h 24h 28h 30h 36h |
| 123456 | 183232 | 353913 | 578240 | 10510184 | 6453928970 | 72765369 | 1711 | 86 | 14124334 | 7260 | 465850513932 | 462557 |

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| Figure 1Q |  WT |  s*agd1* |
| Spec. | Number of *neurod*+ cells  |  36h 48h \_  Ant Post Total Ant Post Total |  36h 48h \_Ant Post Total Ant Post Total |
| 1234 | 165194164175 | 12272711 | 177221191186 | 166200178 | 513546 | 217235224 | 836780 | 141214 | 977994 | 150131134 | 425335 | 192184169 |

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| Figure 1-figure supplement 1I |   WT  |  s*agd1* |
| Spec. | Number of Isl1+ SAG cells-Anterior |  30h 36h 48h |  30h 36h 48h |
| 12345678910111213141516 | 353236413434353835343535343535 | 47403939424237454139384445434244 | 5756605955615451464647 | 9171712111918161418161819 | 2525242924 | 433532373940 |
| 12345678910111213141516 | Number of Isl1+ SAG cells-Posterior | 91111111312151712131417121113 | 18151716181620171523172021211820 | 252724292827282224242426 | 8888981088108108 | 1516171413 | 222523202425 |

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| Figure 1-figure supplement 1J |   WT |   s*agd1* |
| Spec. | Number of TUNEL+, Brn3c:Gfp+ SAG cells  |  24h 30h 36h 48h  |  24h 30h 36h 48h  |
| 1234 | 8158 | 151194 | 20 | 0000 | 0610 | 71100 | 1520 | 00 |

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| Figure 2E |  WT |  s*agd1* |
| Spec. | Number of *brn3c:Gfp*+ hair cells  |  36h 48h \_  Ant Post Ant Post |  36h 48h \_  Ant Post Ant Post |
| 123456789101112131415161718 | 1091110119119109109101011 | 888888888888778 | 1617161616161617161717 | 18181817191717181720 | 788798888877897877 | 666576665575556766 | 13141312121312131212131312 | 13151413151214141313141414 |

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| Figure 3-figure supplement 3C |  *pgk1-alt* morpholino injections |
| Spec. | Number of Isl1+ SAG cells 32 hpf |  tbMO1 + sbMO + Control tbMO1 tbMO2 tbMO2 sbMO tbMO1 |
| 123456789101112131415 | 495448575041554956514158 | 333353373738404742273539253741 | 394142494744363848355034483532 | 303737415045364740314744343637 | 373331362828363427353433 | 323833423139294128333628 |

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| Figure 4Q |  Heat shocked 39°C, 1 hour *pgk1-* *sagd1-*; WT *pgk1- sagd1-* x *sagd1- sagd1- hs:pgk1 hs:pgk1* |
| Spec. | Number of Isl1+ SAG cells 30 hpf |
| 123456789101112131415161718192021222324252627 | 4442434141464546 | 26262824272725 | 394142494744363848355034483532 | 394041414249444041374240464643474147434243424740424044 | 292730312528 | 5143414138423956414039535040 | 4956534641495053535440523952 |

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| Figure 4S |  WT  |  *pgk1* |
| Spec. | Number of Isl1+ SAG cells-Anterior |  36h 48h 120h |  36h 48h 120h |
| 123456789101112 | 413938404141384140414039 | 616059616059616360606060 | 101103106106 | 343332303132323131323131 | 484749484747484747484749 | 70757477 |
| 123456789101112 | Number of Isl1+ SAG cells-Posterior | 151514161615161515151415 | 262625262425262624252524 | 48495546 | 111112131212141311121211 | 212019201921211920202022 | 47403642 |

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| Figure 4T |  WT  |  *pgk1* |
| Spec. | Number of hair cells-Anterior |  36h 48h 120h |  36h 48h 120h |
| 12345678910111213141516171819202122 | 101110101091010111010111110910 | 1617161615161716161615151615 | 5453525254515253 | 8897898888788978889988 | 121211111213121113111112121111 | 44404241424441 |
| 12345678910111213141516 | Number of hair cells -Posterior | 8989887889899988 | 171716171817271617161616 | 515250525351505051 | 7657667666566769 | 1412111312131212121113121212 | 4543414142414240 |

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| Figure 4-figure supplement 3A-D |  Olfactory Facial Glossopharyngeal epithelium ganglion ganglion. \_ WT *pgk1-* WT *pgk1-* WT *pgk1-* |
| Spec. | Pixel area of *neuod*expressiondomain |
| 123456789101112 | 18743193171963917927198731871917915 | 1405512834152401311512939145441640914851 | 6635670476656430687974126893791865527402 | 4308497853875671671165885790592346773953 | 2626259319051983311128972745288924912294 | 123311461529175213441752134415721130144416711268 |

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| Figure 4-figure supplement 3E-F |  Trigeminal Reticulospinal ganglion neurons \_ WT *pgk1-* WT *pgk1-* |
| Spec. | Number ofAcetylated Tubulin+ cells |
| 123456789101112131415161718 | 1619171416182015161216 | 67867 | 151516171615211913171920151814202021 | 7956 |

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| Figure 4-figure supplement 4A |  *pgk1-*WT *hs:pgk1-alt* *pgk1- hs:pgk1-alt* |
| Spec. | Number of Isl1+ SAG cells 32 hpf |
| 12345678910111213141516 | 51434747485058474454505453435153 | 56535359474352474649485649 | 343838354431414146393835 | 403744383232352737 |

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| Figure 4-figure supplement 4B |  WT *pgk1-alt*-sbMOcontrol  *hs:pgk1-alt pgk1-alt-*sbMO  |
| Spec. | Number of Isl1+ SAG cells 30 hpf |
| 12345678910111213 | 454744444344434643414647 | 44464748484646444549444847 | 31293233343431303634 |

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| Figure 4-figure supplement 6A |   WT *pgk1-* *sagd1-*  control *plg*-tbMO *pgk1*- *plg*-tbMO *sagd1*- *plg*-tbMO |
| Spec. | Number of Isl1+ SAG cells 30 hpf |
| 12345678 | 4544464242444143 | 40394142414346 | 262824262527 | 192125242017 | 282529293130 | 292524272026 |

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| Figure 4-figure supplement 6B |  WT *pgk1-*control *plg-*sbMO *pgk1- plg-*sbMO |
| Spec. | Number of Isl1+ SAG cells 30 hpf |
| 12345678910 | 43435240494640434642 | 454340493939384142 | 353536303629 | 27283535362227 |

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| Figure 5B |  2DG 2DG 2DG 2DG 3PO 3PO 3PO DCAQ 250uM 250µM 250µM. 100µM 25µM 40µM 100µM. 100µM WT t=0h t=0h t=0h t=14h t=0h t=0h t=14h t=14hcontrol WT *sagd1- sagd1- pgk1- pgk1-*  WT WT WT WT WT |
| Spec. | Number of Isl1+ SAG cells 30hpf |
| 1234567891011121314151617181920212223242526272829303132 | 454048424245494645424141414643414242414140394239 | 242234253028313133293229323026333027 | 3227262832282927 | 2227262828262022263229352929313132232828283025262327222725242428 | 2628262824272725 | 2523242519252624313227222224242425302331242627262923 | 323332332937243427 | 3125262425262729242620222419 | 2825252128272929272823 | 222023282723252725212727242426 | 3933353331283434313331332932403434333136 |

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| Figure 5C |  Gal Gal Gal UK UK UK Lactate Lactate  25uM 50µM 100µM 20µM 50µM 100µM 6.7mM 6.7mM WT t=14h t=14h t=14h t=14h t=14h t=14h pH6.2 pH6.2 t=14h t=14hcontrol WT WT WT WT WT WT WT *pgk1-* WT *pgk1-* |
| Spec. | Number of Isl1+ SAG cells 30hpf |
| 12345678910111213141516171819202122232425262728 | 4440454241413944424241 | 3629334340393829 | 32312425343329342225232827 | 292329262424292327292229232629 | 283131313432293236232429 | 342633242522242828283226 | 232126262422282924272324 | 474642424846433944464138414741474841 | 292726272919 | 52534848596060524847605248476057515252524860 | 47435553454043514151494741494149445348534442555350484249 |

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| Figure 5D |  Lactate 2DG 2DG Gal Gal CHC CHC 6.7mM 25µM + 100µM + 100µM + Lactate Lactate Lactate WT t=14h control WT WT WT WT WT WT WT |
| Spec. | Number of *brn3c:Gfp*+ hair cells 36 hpf |
| 123456789101112131415161718 | 211318161313211915181617171917121618 | 151415211418181219121315161320 | 111411891213121610 | 10121211131414141716 | 111513156141010 | 18221516171316121216151314 | 121365898710696 | 131314913168121117109151511 |

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| Figure 6C |  Lactate ATP Lactate ATP 6.7mM 1mM 6.7mM 1mM WT WT WT *pgk1-* *pgk1-* *pgk1-* |
| Spec. | Number of *etv5b*+ cells 18 hpf |
| 1234 | 1061159488 | 97110102126 | 126117136 | 5262 | 115125 | 60726753 |

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| Figure 6D |  Lactate ATP Lactate ATP 6.7mM 1mM 6.7mM 1mM WT WT WT *pgk1-* *pgk1-* *pgk1-* |
| Spec. | Number of *ngn1*+ cells 24 hpf |
| 123456 | 334556395349 | 505172607951 | 44443825 | 251719191917 | 46384435 | 1819 |

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| Figure 6E |  Gal 2DG Azide U0126 CHC 100µM 25µM 25µM 30µM 100µM WT t=14h t=0h t=14h t=14h t=14hcontrol WT WT WT WT WT |
| Spec. | Number of *ngn1*+ cells 24 hpf |
| 1234 | 444647 | 343224 | 20173432 | 30424633 | 16151720 | 232231 |

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| Figure 6-figure supplement 2A |  U0126 U0126 U0126 LY LY LY WT 10µM 20µM 30µM 10µM 20µM 30µMcontrol WT WT WT WT WT WT |
| Spec. | Number of Isl1+ SAG cells 30 hpf |
| 123456789101112 | 45434243 | 25302725282324 | 282726293128 | 252931 | 42413940414043 | 394237393743404137383841 | 424641413940 |

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| Figure 6-figure supplement 2C |  Lactate Lactate WT 6.7mM 6.7mMcontrol WT *hs:dnfgfr1 hs:dnfgfr1* |
| Spec. | Number of Isl1+ SAG cells 30 hpf |
| 12345678910111213141516 | 444648434243454348484643 | 555059555149515558515250 | 41283928364240292527303028383729 | 3933443037274234403536 |

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| Figure 6-figure supplement 2B |  Lactate Lactate U0216 + WT 6.7mM 20µM U0126control WT WT WT |
| Spec. | Number of Isl1+ SAG cells 32 hpf |
| 123456789101112 | 5046524445534858494344 | 62544953505661585657 | 3631303238372937323432 | 283129353733313738293336 |