

# Main functions from overrepresentation analysis plotted by tissue

| Spleen  |                     |
|---|---------------------|
| FUNCTION                                      | ADJ_P_VALUE         |
| <b>lymphocyte activation</b>                  | $1 \times 10^{-65}$ |
| <b>T cell activation</b>                      | $3 \times 10^{-56}$ |
| <b>adaptive immune response</b>               | $4 \times 10^{-53}$ |
| <b>immune effector process</b>                | $5 \times 10^{-50}$ |
| <b>positive regulation of immune response</b> | $8 \times 10^{-50}$ |
| regulation of cell activation                 | $3 \times 10^{-49}$ |
| regulation of leukocyte activation            | $4 \times 10^{-49}$ |
| regulation of lymphocyte activation           | $8 \times 10^{-48}$ |
| leukocyte cell-cell adhesion                  | $2 \times 10^{-42}$ |
| immune response-regulating signaling pathway  | $1 \times 10^{-41}$ |

A

| Heart                                    |                     |
|--|---------------------|
| FUNCTION                                 | ADJ_P_VALUE         |
| <b>muscle cell development</b>           | $3 \times 10^{-27}$ |
| <b>muscle structure development</b>      | $1 \times 10^{-26}$ |
| <b>myofibril assembly</b>                | $2 \times 10^{-24}$ |
| striated muscle cell development         | $2 \times 10^{-24}$ |
| muscle tissue development                | $3 \times 10^{-24}$ |
| <b>cardiac muscle tissue development</b> | $3 \times 10^{-24}$ |
| muscle system process                    | $3 \times 10^{-24}$ |
| striated muscle tissue development       | $2 \times 10^{-23}$ |
| muscle cell differentiation              | $5 \times 10^{-23}$ |
| <b>heart contraction</b>                 | $1 \times 10^{-22}$ |

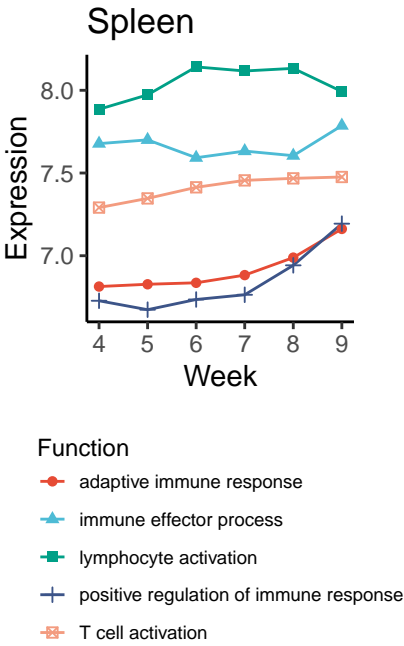
C

| Muscle - Skeletal                           |                     |
|---|---------------------|
| FUNCTION                                    | ADJ_P_VALUE         |
| <b>muscle structure development</b>         | $7 \times 10^{-29}$ |
| <b>muscle system process</b>                | $8 \times 10^{-27}$ |
| muscle organ development                    | $5 \times 10^{-25}$ |
| <b>muscle cell development</b>              | $1 \times 10^{-21}$ |
| <b>muscle contraction</b>                   | $1 \times 10^{-21}$ |
| muscle cell differentiation                 | $4 \times 10^{-20}$ |
| <b>striated muscle cell differentiation</b> | $4 \times 10^{-19}$ |
| myofibril assembly                          | $3 \times 10^{-18}$ |
| striated muscle cell development            | $3 \times 10^{-18}$ |
| striated muscle contraction                 | $1 \times 10^{-16}$ |

E

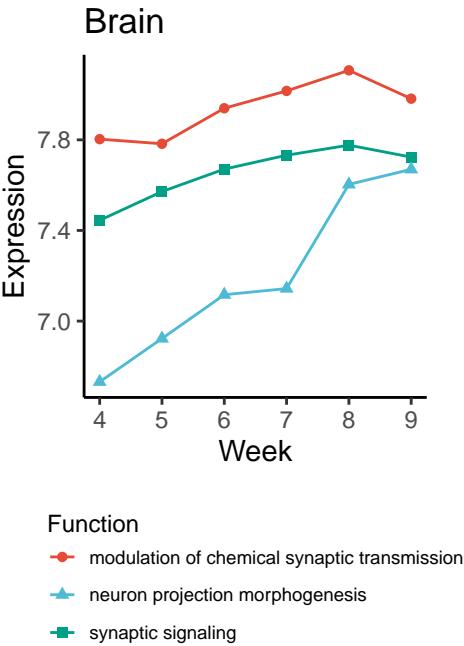
| Stomach                             |                    |
|-------------------------------------|--------------------|
| FUNCTION                            | ADJ_P_VALUE        |
| <b>digestion</b>                    | $1 \times 10^{-4}$ |
| <b>regulation of hormone levels</b> | $6 \times 10^{-4}$ |
| gastric acid secretion              | $2 \times 10^{-3}$ |
| <b>peptide hormone secretion</b>    | $2 \times 10^{-3}$ |
| peptide transport                   | $2 \times 10^{-3}$ |
| peptide secretion                   | $3 \times 10^{-3}$ |
| digestive system process            | $6 \times 10^{-3}$ |
| amide transport                     | $6 \times 10^{-3}$ |
| hormone transport                   | $6 \times 10^{-3}$ |
| hormone secretion                   | $6 \times 10^{-3}$ |

G



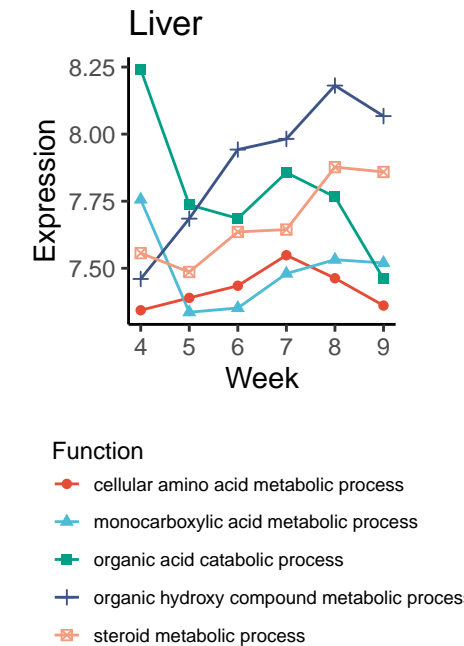
| Brain   |                     |
|---|---------------------|
| FUNCTION  | ADJ_P_VALUE         |
| <b>synaptic signaling</b>                             | $9 \times 10^{-43}$ |
| trans-synaptic signaling                              | $9 \times 10^{-43}$ |
| chemical synaptic transmission                        | $9 \times 10^{-43}$ |
| anterograde trans-synaptic signaling                  | $9 \times 10^{-43}$ |
| <b>modulation of chemical synaptic transmission</b>   | $9 \times 10^{-25}$ |
| regulation of trans-synaptic signaling                | $9 \times 10^{-25}$ |
| <b>neuron projection morphogenesis</b>                | $2 \times 10^{-18}$ |
| cell projection morphogenesis                         | $8 \times 10^{-18}$ |
| plasma membrane bounded cell projection morphogenesis | $2 \times 10^{-17}$ |
| cell part morphogenesis                               | $2 \times 10^{-17}$ |

B



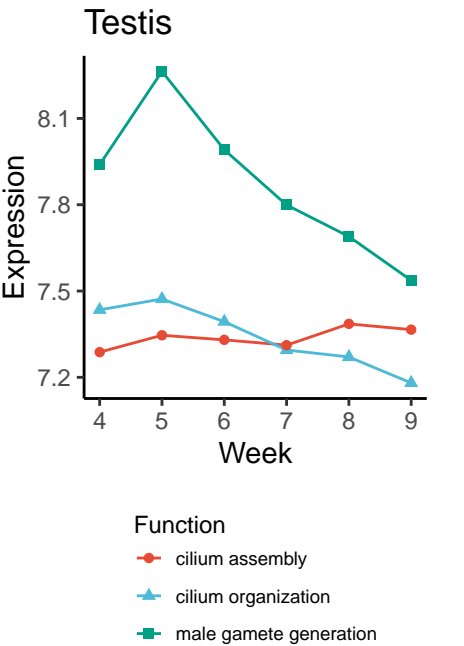
| Liver   |                     |
|---|---------------------|
| FUNCTION  | ADJ_P_VALUE         |
| <b>monocarboxylic acid metabolic process</b>      | $7 \times 10^{-51}$ |
| small molecule catabolic process                  | $7 \times 10^{-39}$ |
| <b>organic acid catabolic process</b>             | $4 \times 10^{-36}$ |
| carboxylic acid catabolic process                 | $2 \times 10^{-35}$ |
| <b>steroid metabolic process</b>                  | $7 \times 10^{-33}$ |
| small molecule biosynthetic process               | $4 \times 10^{-31}$ |
| <b>cellular amino acid metabolic process</b>      | $1 \times 10^{-28}$ |
| fatty acid metabolic process                      | $6 \times 10^{-28}$ |
| <b>organic hydroxy compound metabolic process</b> | $9 \times 10^{-28}$ |
| alpha-amino acid metabolic process                | $3 \times 10^{-27}$ |

D



| Testis                                |                     |
|---------------------------------------|---------------------|
| FUNCTION                              | ADJ_P_VALUE         |
| <b>male gamete generation</b>         | $1 \times 10^{-35}$ |
| spermatogenesis                       | $3 \times 10^{-34}$ |
| microtubule-based movement            | $2 \times 10^{-26}$ |
| <b>cilium organization</b>            | $2 \times 10^{-26}$ |
| cilium assembly                       | $2 \times 10^{-23}$ |
| microtubule cytoskeleton organization | $2 \times 10^{-23}$ |
| <b>meiotic cell cycle</b>             | $2 \times 10^{-23}$ |
| cilium movement                       | $3 \times 10^{-20}$ |
| nuclear division                      | $1 \times 10^{-18}$ |
| meiotic cell cycle process            | $2 \times 10^{-18}$ |

F



| Skin  |                     |
|---|---------------------|
| FUNCTION  | ADJ_P_VALUE         |
| <b>epidermis development</b>                    | $2 \times 10^{-21}$ |
| <b>skin development</b>                         | $9 \times 10^{-21}$ |
| <b>keratinization</b>                           | $6 \times 10^{-17}$ |
| <b>keratinocyte differentiation</b>             | $2 \times 10^{-14}$ |
| epidermal cell differentiation                  | $1 \times 10^{-10}$ |
| intermediate filament cytoskeleton organization | $9 \times 10^{-10}$ |
| intermediate filament-based process             | $1 \times 10^{-9}$  |
| intermediate filament organization              | $6 \times 10^{-9}$  |
| regulation of water loss via skin               | $2 \times 10^{-8}$  |
| establishment of skin barrier                   | $1 \times 10^{-7}$  |

H

