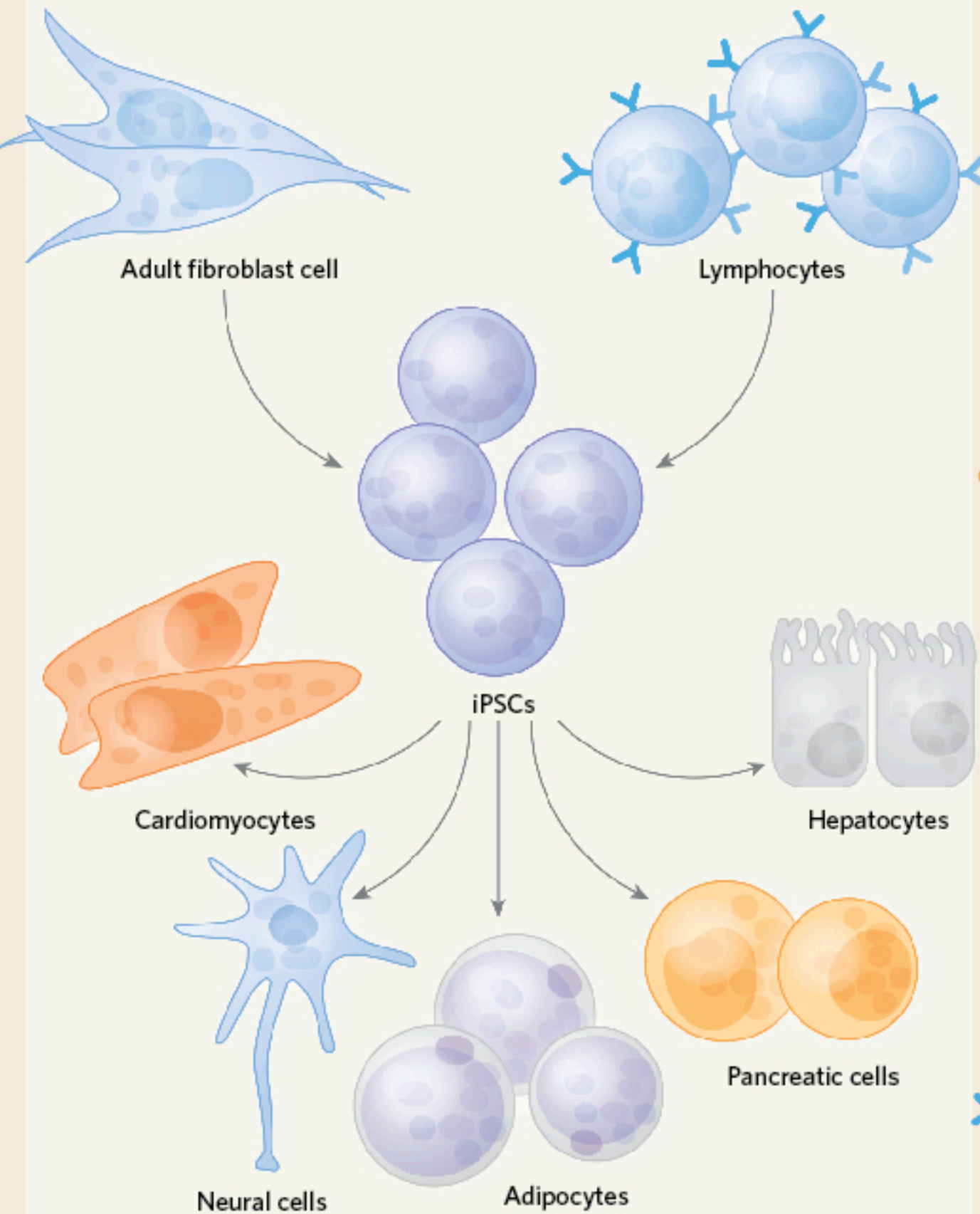


JUMPING BETWEEN CELLS

While induced pluripotent stem cell (iPSC) biology surges ahead, some researchers aim to skip the pluripotency step altogether, directly coaxing adult cells of one type to become another. The overexpression of just one or a few transcription factors, typically those that are involved in the embryonic development of the desired cell type, can spur these dramatic transformations. MyoD, for example, can on its own reprogram a variety of cell lines into muscle fibers known as myotubes. Other successful direct transformations include pancreatic exocrine cells into hepatocytes or endocrine cells; B lymphocytes into macrophages; and fibroblasts into neurons, cardiomyocytes, and hepatocytes.

INDIRECT REPROGRAMMING



DIRECT REPROGRAMMING

