This week in therapeutics

Indication	Target/marker/ pathway	Summary	Licensing status	Publication and contact information
Endocrine/metabolic disease				
Thyroid disease	NK2 homeobox 1 (NKX2-1; TTF1); paired box gene 8 (PAX8)	Studies in cell culture and in mice suggest embryonic stem cell (ESC)-derived follicular cells could be used to treat hypothyroidism. Transient Nkx2-1 and Pax8 overexpression in murine ESC culture led to differentiation into thyroid follicular cells, which organized into 3D follicular structures when treated with thyrotropin. In athyroid mice, thyroid follicular cells transplanted into the kidney capsule engrafted, developed into functional thyroid follicles and rescued thyroid homeostasis in eight out of nine mice. Next steps include developing a similar protocol using human stem cells and exploring ways to generate functional human thyroid tissue by reprogramming pluripotent stem cells derived from skin.	Unpatented; licensing status not applicable	Antonica, F. <i>et al. Nature</i> ; published online Oct. 10, 2012; doi:10.1038/nature11525 Contact: Sabine Costagliola, Free University of Brussels, Brussels, Belgium e-mail: scostag@ulb.ac.be
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