Transforming growth factor β (TGFβ) is a pluripotent cytokine that has potent effects on skeletal muscle cells at physiological levels. In particular, it maintains progenitor cells in an undifferentiated state until they receive appropriate cues for differentiation. The canonical downstream effectors of TGFβ signaling in most physiological systems are the SMAD proteins, however, in this work we documented that the major downstream pathway is MEK-ERK signaling. These observations may have important implications for our understanding of skeletal muscle maintenance and regeneration after injury.

Reference: Miyake, T., Aziz, A., & McDermott, J. C. (2020). Maintenance of the Undifferentiated State in Myogenic Progenitor Cells by TGFβ Signaling is Smad Independent and Requires MEK Activation. *International journal of molecular sciences*, *21*(3), 1057. https://doi.org/10.3390/ijms21031057

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