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Sommario	<p>The microphthalmia family (MITF, TFEB, TFE3, and TFEC) of transcription factors is emerging as global regulators of cancer cell survival and energy metabolism, both through the promotion of lysosomal genes as well as newly uncharacterized targets. During my Ph.D. thesis project, I revealed a new set of TFEB target genes that when activated could contribute to cell migration and invasiveness in cancer. During my work, I found that TFEB regulates the filopodial initiator's factors IRSp53 and EPS8 causing a change in cell shape and an increase in filopodia number that correlates with an augmented motility and invasiveness of the cell. On the contrary, depletion of TFEB and TFE3 leads to down-regulation of EPS8 and IRSp53, and a decrease of filopodia numbers. I confirmed the entire study in the Melanoma cell line (501Mel), a model of cancer, that are cells with a high degree of motility, showing that also in this system, there is an increase in the number of filopodia as well as of EPS8 and IRSp53 levels. This phenotype was completely reversed by depletion of MITF or TFEB and TFE3, demonstrating that the upregulation of these transcription factors could contribute to the invasive phenotype of melanoma cells. Altogether these data revealed a new role of MITF transcription factors as regulators of a transcriptional program that could control metastatic cancer initialization.</p>

