Table S1:

Table S1: MYO5A is found overexpressed in different tumor types	
Reference	**Tissue Type**
Dyrskjøt *et al.* (2004)[1]	Urinary blader carcinoma in situ lesion and muscle invasive carcinoma
Talantov *et al.* (2005)[2]	Melanoma and benign nevus
Kuriakose *et al.* (2005)[3]	Head and neck squamous cell carcinoma
Liu *et al.* (2006)[4]	Prostate carcinoma
Cheng *et al.* (2008)[5]	Breast carcinoma and Invasive ductal carcinoma

1- Dyrskjøt L, Kruhøffer M, *et al* (2004). Gene expression in the urinary bladder: a common carcinoma in situ gene expression signature exists disregarding histopathological classification. Cancer Res 64(11): 4040-4048.

2- Talantov D. Mazumder A. *et al.* (2005). Novel genes associated with malignant melanoma but not benign melanocytic lesions. Clin Cancer Res 11(20): 7234-7242.

3- Kuriakose, MA, Chen, WT. *et al.* (2004). Selection and validation ofdifferentially expressed genes in head and neck cancer. Cell Mol Life Sci 61(11): 1372-1383.

4- Liu, P, Ramachandran S, *et al.* (2006). Sex-determining region Y box 4 is a transforming oncogene in human prostate cancer cells. Cancer Res 66(8): 4011-4019.

5- Cheng, AS, Culhane AC, *et al* (2008) Epithelial progeny of estrogen-exposed breast progenitor cells display a cancer-like methylome. Cancer Res 68(6): 1786-1796.

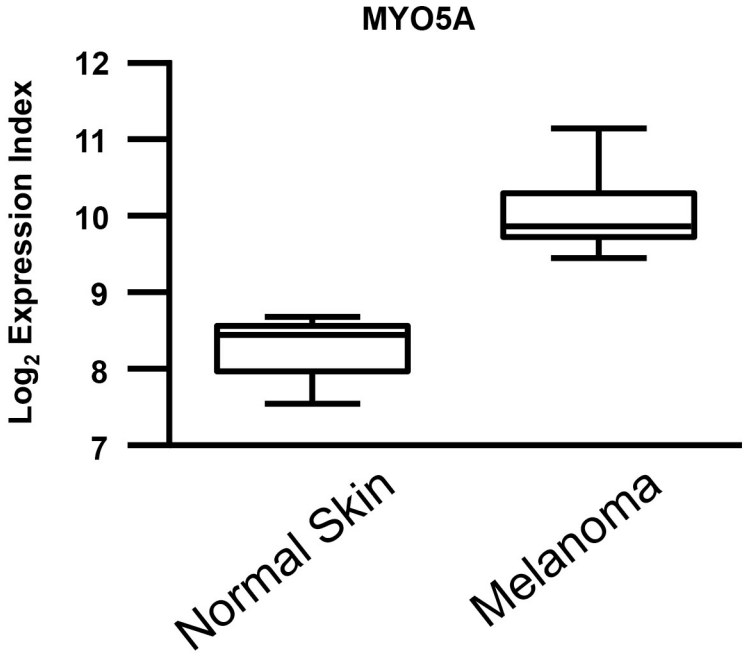


Figure S1: Microarray expression of myosin-Va in normal skin versus melanoma. Expression analysis based on data published by Talantov et al. (2005) (Table S1). RNA isolated from 45 primary melanoma and 7 normal skin tissue specimens were analyzed.

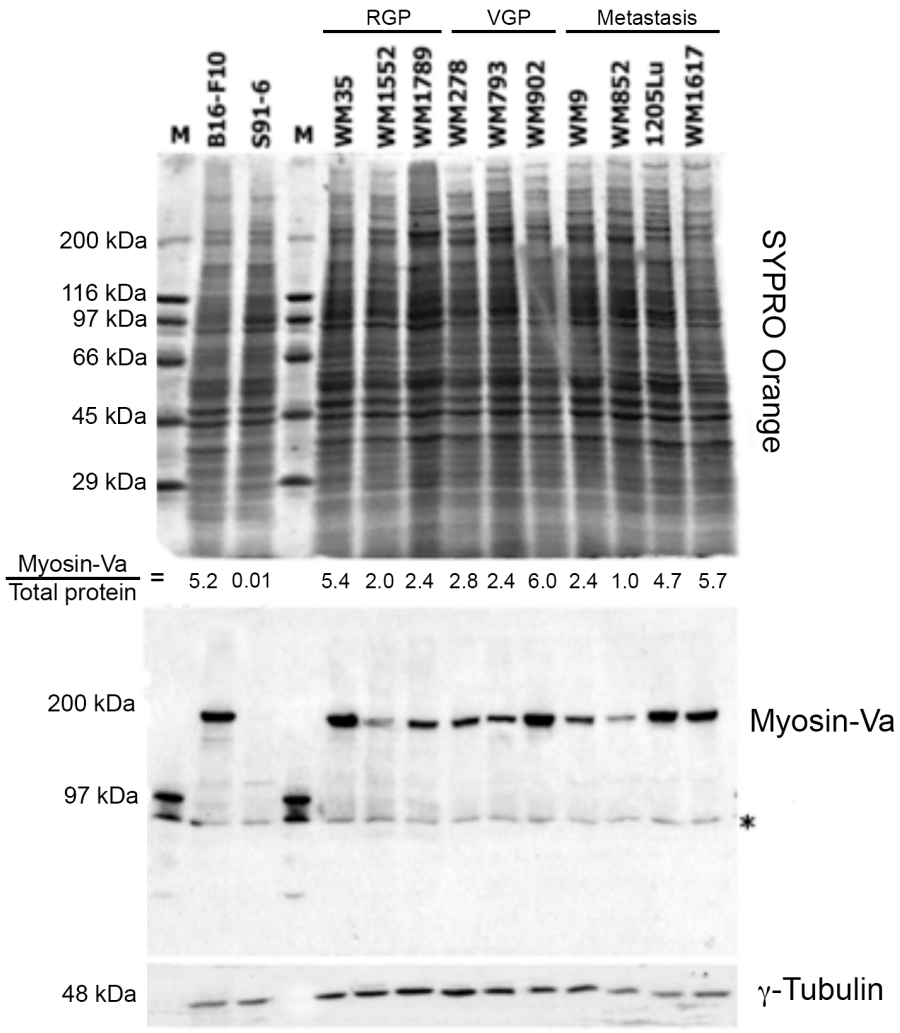
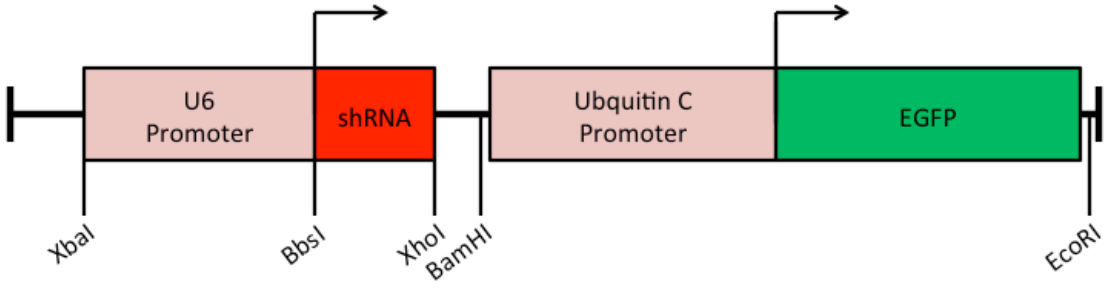


Figure S2: Expression of myosin-Va in melanoma cell lines. Western-blot of myosin-Va in a panel of human melanoma cell lines represented by cell lines derived from primary tumor in the radial growth phase (RGP) or vertical growth phase (VGP), and metastasis, including paired lines (WM793 and 1205Lu; WM278 and WM1617). B16-F10 is a highly metastatic murine melanoma cell line that expresses wild-type myosin-Va. S91-6 is a poorly metastatic melanoma cell line derived from a mouse characterized by loss of myosin-Va expression in the melanocytic lineage due to insertion of an ecotropic murine leukemia virus in an intron of the *MYO5A* gene. Quantification was done using ImageJ software (available at http://rsb.info.nih.gov/ij/). M, molecular weight markers.



shControl:

5'– ACCGTGACCAGCGAATACCTGTTTCAAGAGACCAGGTATTCGCTGGTCACTTTTTC-3'

shMYO5a #1:

5'- ACCGATAAGAGATATCGAATCATTCAAGAGATGATTCGATATCTCTTATCTTTTTC-3'

shMYO5a #2 (shM-489 - NM_000259.1-524s1c1):

5'-CCGGCGCTTTATTGATTCCAAACTTCTCGAGAAGTTTGGAATCAATAAAGCGTTTTTG-3'

shMYO5a #3 (shM-490 - NM_000259.1-1567s1c1):

5'-CCGGCGGATTTGAAACATTTGAGATCTCGAGATCTCAAATGTTTCAAATCCGTTTTTG-3'

Figure S3: Lentiviral vector and oligonucleotide sequences used to generate the short hairpin RNA shMYO5a #1. Diagram of the lentiviral vector pFUG12 (top) used to express shMYO5a #1 or shControl. Note the presence of two independent promoters, driving the shRNA and EGFP expression. The shRNA sequences were cloned as described previously (Qin, 2003). The EGFP expression was used as a marker for transduction. The lentiviral particles containing a shControl, shMYO5a #2 and #3 were obtained commercially from Sigma Aldrich (SHCLNV-NM_000259, shM-488 and shM-489). shControl is a non-target shRNA that does not target to any human gene.