# Myc-driven murine prostate cancer shares molecular features with human prostate tumors

Katharine Ellwood-Yen,[1,4] Thomas G. Graeber,[3,5] John Wongvipat,[1,4,5] M. Luisa Iruela-Arispe,[6] JianFeng Zhang,[7,8] Robert Matusik,[7] George V. Thomas,[2,*] and Charles L. Sawyers[1,4,5,*]

[1] Departments of Medicine, Urology, and Molecular and Medical Pharmacology, University of California, Los Angeles, Los Angeles, California 90095
[2] Department of Pathology, University of California, Los Angeles, Los Angeles, California 90095
[3] UCLA-DOE Institute for Genomics and Proteomics, University of California, Los Angeles, Los Angeles, California 90095
[4] Jonsson Comprehensive Cancer Center, David Geffen School of Medicine, University of California, Los Angeles, Los Angeles, California 90095
[5] Howard Hughes Medical Institute, University of California, Los Angeles, Los Angeles, California 90095
[6] Department of Molecular, Cell and Developmental Biology, University of California, Los Angeles, Los Angeles, California 90095
[7] Department of Urology, Vanderbilt University School of Medicine, Nashville, Tennessee 37232
[8] Department of Dermatology, University of Alabama, Birmingham, Alabama 35294
*Correspondence: gvthomas@mednet.ucla.edu (G.V.T.); csawyers@mednet.ucla.edu (C.L.S.)

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During further characterization of the Hi-Myc and Lo-Myc prostate cancer transgenic mice, we discovered that 34 amino acids of additional sequence (derived from the Bluescript multiple cloning site) were inadvertently added to the C terminus of the human c-Myc protein during subcloning, creating an unintended C-terminal tag. Consequently, the transgenic Myc protein (Myc-Tg) runs with higher mobility than endogenous Myc (85–90 kDa versus 65 kDa). It is unlikely that the additional C-terminal sequences alter Myc function because the transforming activity of Myc-Tg was comparable to that of Myc in NIH3T3 fibroblast transformation assays (Table 1). Furthermore, proliferation of Myc-CaP cells, a new line derived from Hi-Myc prostate tumors, is restored by ectopic Myc expression when Myc-Tg levels are lowered by androgen withdrawal (Watson et al., 2005). Since untagged human Myc can compensate for loss of Myc-Tg function, we consider the Myc-Tg protein that is expressed in Hi-Myc and Lo-Myc to be an epitope-tagged Myc protein. Since the publication of our findings in mice, others have reported that overexpression of wild-type c-Myc is sufficient to induce tumor formation of normal human prostatic epithelial cells in a tissue recombination assay (Williams et al., 2005), confirming the oncogenic potential of Myc in prostate cancer.

**Table 1.** Soft agar transformation assay

| Cell type | Number of foci |
|---|---|
| 3T3 | 1 |
| 3T3 Myc-wt | 8 |
| 3T3 Myc-Tg | 9 |
| 3T3 c-term 34 AA | 2 |
| 3T3 Ras(KV12) | 136 |
| 3T3 Myc-wt + Ras(KV12) | 202 |
| 3T3 Myc-Tg + Ras(KV12) | 224 |
| 3T3 c-term 34 aa + Ras(KV12) | 168 |

NIH3T3 cells were transfected with a plasmid expressing Myc-wt, Myc-Tg, or the 34 amino acid tail added to the Myc-Tg alone or together with a plasmid expressing activated Ras(KV12) as indicated then grown in soft agar. The number of foci obtained after growth in soft agar is averaged in the column on the right.

### References

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