New model for understanding myeloma

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All cancers originate from an earlier, or precursor, state—such as a benign or asymptomatic condition. To develop new approaches to cancer prevention, scientists have attempted to grow tumor cells from precursor states in animal models.

Myeloma—a type of cancer that forms in white blood cells—is an example of a cancer that is preceded by a condition called monoclonal gammopathy.

In a new study, Yale professors Madhav Dhodapkar, Richard Flavell, and their co-authors describe new mouse models, wherein mice carry human versions of six genes that are essential for growth of tumor cells.

They found that when the humanized mice were injected with tumor and non-tumor cells, both cell types were able to grow.

The finding provides a potential new approach to understanding how myeloma develops and how to prevent it.

  More information: Rituparna Das et al. Microenvironment-dependent growth of preneoplastic and malignant plasma cells in humanized mice, *Nature Medicine* (2016). DOI: 10.1038/nm.4202

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