MINI REVIEW

TRKing Down an Old Oncogene in a New Era of Targeted Therapy ........................................... 25
A. Vaishnavi, A.T. Le, and R.C. Doebele

RESEARCH BRIEFS

Real-Time Intravital Imaging Establishes Tumor-Associated Macrophages as the Extraskeletal Target of Bisphosphonate Action in Cancer .......................... 35

Précis: Bisphosphonates bind granular microcalcifications and are internalized by tumor-associated macrophages in breast tumors.

See commentary, p. 14

The Vigorous Immune Microenvironment of Microsatellite Instable Colon Cancer Is Balanced by Multiple Counter-Inhibitory Checkpoints ................................. 43

Précis: Mismatch repair–deficient colorectal cancers counteract Th1/CTL immune responses by upregulating immune checkpoint proteins, including PD-1 and PD-L1.

See commentary, p. 16

Mutant KRAS–Induced Expression of ICAM-1 in Pancreatic Acinar Cells Causes Attraction of Macrophages to Expedite the Formation of Precancerous Lesions .............. 52

Précis: Crosstalk between pancreatic acinar cells and proinflammatory macrophages promotes initiation of acinar-to-ductal metaplasia via KRASG12D–induced expression of the macrophage chemoattractant ICAM1.
Prospective Blinded Study of $BRAF^{V600E}$ Mutation Detection in Cell-Free DNA of Patients with Systemic Histiocytic Disorders


Précis: Cell-free DNA testing using plasma and urine samples may be a reliable, noninvasive method to identify mutations and monitor treatment response in histiocytic disorders.

Induction of Telomere Dysfunction Mediated by the Telomerase Substrate Precursor 6-Thio-2'-Deoxyguanosine

I. Mender, S. Gryaznov, Z.G. Dikmen, W.E. Wright, and J.W. Shay

Précis: 6-thio-2'-deoxyguanosine is a precursor of a telomerase substrate that is incorporated into newly synthesized telomeres, leading to telomere dysfunction and death in telomerase-expressing cells.

See commentary, p. 19