BRAF mutations are potentially targetable alterations in a wide variety of solid cancers

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Abstract (updated)
Background: The BRAF gene mutations are potentially targetable with several treatment modalities approved in a limited number of cancer types. The present study explored the frequencies and types of BRAF mutations in a wide variety of solid tumors.

Materials and Methods: 36,312 solid tumors were profiled using different gene sequencing assays (Sanger and Next-generation sequencing, Caris Life Sciences, Phoenix, AZ) and immunohistochemistry.

Results: Overall, 5% of all solid tumors harbored BRAF mutations (77% V600E and 23% non-V600). As expected, BRAF mutations were detected in 38% of thyroid cancers (4% V600E, 35% malignant melanomas (13% non-V600E), 9% colorectal (10% non-V600E), 6% small intestinal cancers (92% non-V600E) and 4% breast cancer (5% non-V600E). As expected, BRAF mutations were detected in 38% of thyroid cancers, 35% of malignant melanomas, 9% of colorectal, 6% of small intestinal cancers, 4% of breast cancers.

Conclusions: BRAF mutations are potentially targetable alterations in a wide variety of solid cancers.