



Cancer Genomic Somatic Reference Samples – Draft Prioritized Tumor Suppressor List Process for Providing Input

Public Comment Period: May 1, 2019 – May 30, 2019

The Medical Device Innovation Consortium's Clinical Diagnostics Cancer Genomic Somatic Reference Samples working group seeks your comments on the draft list of prioritized tumor suppressors.

The goal of the initiative is to develop reference samples that can be made available to the public to improve the accuracy, reliability and transparency of Next-Generation-Sequencing (NGS) based oncology tests. In addition, the samples will improve the efficiency and cost-effectiveness of accurate NGS-based test development and validation by establishing and organizing a collaborative community effort to develop needed reference samples.

Availability of reference samples will aid in efficient NGS test development and validation which will in turn streamline and possibly obviate steps in the regulatory process for diagnostic companies, provide transparency, and compress development timelines for targeted therapeutics developers.

The team was asked to create a prioritized list of tumor suppressor genes that would be covered in an ideal set of reference materials. To ensure that this list identifies the most useful targets to benefit the most patients today, they drew the targets from the work of objective third parties without vested commercial interests in any particular target. Sources should therefore:

- Represent current standard medical practice
- Originate from a public sector or independent non-profit organizations
- Represent the collective opinion of a broad swathe of clinicians and / or laboratory scientists.

The sources used included: OncoKB (oncokb.org), National Comprehensive Cancer Network (NCCN), and ongoing oncology trials catalogued on clinicaltrials.gov

We prioritized genes with Levels 1 and 2 clinical evidence as defined in CDRH's tiering system for NGS. Level 1 representing those genes that are associated with approved companion diagnostics and Level 2 representing mutation with evidence of clinical significance, such as by inclusion in guidelines. Level 3 Variants will be presented later. We also prioritized variants relevant to solid tumors. HemOnc variants are out of the current scope.

We ask for you to review the list and answer the following questions:

1. Are there any tumor suppressor genes missing? Rationale why?
2. Is there a tumor suppressor gene on the list that should not be on the list? Rationale why?
3. Do you have comments on MDIC's strategy for generating reference lesions within the selected tumor suppressors?
4. What other types of gene signatures should we consider?

You can ACCESS the draft Tumor Suppressor Gene list at: <https://mdic.org/project/cancer-genomic-somatic-reference-samples/>

REVIEW the list – please use 'Gene' name when providing comments about an existing variant.

SHARE your comments – **May 30, 2019 deadline**

Email your comments to SRS-TSGS@mdic.org