



## KRAS – BRAF StripAssay®

The easy way to analyse colorectal cancer therapies using established innovations in diagnostics

### **Metastatic colorectal cancer Assay. Key to the best R&D and therapy.**

Modern cancer therapies target specific cell processes. For metastatic colorectal cancer monoclonal antibody therapies that target EGFR (such as cetuximab and panitumumab) work exceptionally well in many cases. But not in all. Certain mutations in the KRAS and BRAF genes might prevent the therapeutic success of therapies that target EGFR. Furthermore, evidence exists that BRAF might be useful as a predictive marker for the patients' outcome. Screening for KRAS- and BRAF-mutations can thus facilitate a patient-specific therapy.

The Epidermal Growth Factor (EGF) activates cell proliferation by binding to the EGF-Receptor (EGFR). This triggers a signal transduction pathway that includes the KRAS and BRAF proteins. Inhibiting the EGFR with monoclonal antibodies or small molecule therapeutics prevents the activation of the relevant signal transduction right at the start of the pathway. However this only works if other parts of that pathway are not permanently activated regardless of the EGF-signal. Mutations in KRAS and BRAF can cause this kind of activation that renders anti-EGFR therapies ineffective.

The KRAS – BRAF StripAssay® offers an easy way to identify most relevant mutations in the KRAS and BRAF genes. Established innovations in diagnostics by ViennaLab thus help to optimize metastatic colorectal cancer therapies.

Screening for KRAS mutations is now standard of care. This is a consequence of an analysis of the so called CRYSTAL trial (Cetuximab Combined with Irinotecan First-Line Therapy for Metastatic Colorectal Cancer). The trial provided convincing evidence that adding cetuximab to first-line therapeutics improved survival outcomes for patients with wild-type KRAS, but not in patients that carry KRAS mutations (N. Engl. J. Med. 2009;360:1408-17).

## The ViennaLab KRAS – BRAF StripAssay® meets customer requirements



Requirement	ViennaLab's offer
Easy	Three simple steps. 6 h. Done.
Reliable	Can be automated. Probes for mutations and controls combined on one teststrip.
Sensitive	At least 1% mutated alleles will be detected.
Affordable	Reagents. Thermocycler. Incubator. That is all you need. A software is optional.

The ViennaLab KRAS – BRAF StripAssay® combines all these requirements. Better than any other assay currently on the market.

### The ViennaLab KRAS – BRAF StripAssay®

- is based on reverse-hybridization of biotinylated PCR products
- combines probes for mutations and controls in a parallel array of allele-specific oligonucleotides
- works with immobilized oligos on a teststrip
- shows mutations by enzymatic reaction already visible to the naked eye

### Mutations detected

#### KRAS

codon 12: Ala, Arg, Asp, Cys, Ile, Leu, Ser, Val  
codon 13: Asp, Cys

#### BRAF

V600E (Val > Glu)

### The three steps of the ViennaLab KRAS – BRAF StripAssay®

Step	Requirement
<b>1. Amplification:</b> Multiplex PCR-amplification. Simultaneous biotin-labeling	Thermocycler
<b>2. Hybridization:</b> Directly on the StripAssay® teststrips	Incubator
<b>3. Identification:</b> Labeled products detected by streptavidin-alkaline phosphatase	Naked eye or scanner & software

Cat.no.: KRAS – BRAF StripAssay®: 5-580 (20 tests/kit)

**ViennaLab offers StripAssays® for a wide range of diagnostic applications. Visit [www.viennalab.com](http://www.viennalab.com)**

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