

# MTB Report - From somatic variants to treatment options

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## PATIENT INFORMATION

<b>Patient ID</b>	TCGA-C5-A7X3	<b>Histology</b>	cervical squamous cell carcinoma
<b>Gender</b>	female	<b>Stage</b>	
<b>Age</b>	70	<b>Num SNVs</b>	63
<b>Disease</b>	CESC	<b>Num CNVs</b>	69

## GENE-DRUG PREDICTIVE ASSOCIATIONS

**Method:** Somatic variants of the patient (mutations, amplifications, deletions, rearrangements) are searched in curated databases of predictive biomarkers (GKDB<sup>1</sup>, CIViC<sup>2</sup>) and reported according to their clinical evidence (see Levels of Evidence). In the following table, basic information of the somatic variants with relevant clinical implications can be found:

Gene	Patient's Variant	Level of Evidence
NOTCH1	G434C	B3
STK11	E317K, D358N, D359Y	B2, B3

**Levels of Evidence:** Findings are classified into 6 levels of evidence combining the **axis A-B** and the **axis 1-2-3**. Level A means evidence in the same cancer type. Level B means evidence in any other cancer type. On the 1-2-3 axis, level 1 means evidence supported by drug approval organizations or clinical guidelines, level 2 contains clinical evidence (clinical trials, case reports) and level 3 consists of preclinical evidence.

**Table of Results:** All the predictive associations are detailed in this table. The results are sorted by 1) drug frequency, 2) levels of evidence (A1-B1-A2-B2-A3-B3). To allow a quick interpretation, the type of association (response, resistance) is colored (green, red) and new variants are gray and underlined.

Patient		Gene-Drug		Associations				
Gene	Variant	Disease	Known Variant	Association	Drugs	Evidence	PMID	Level
STK11	E317K D358N D359Y	lung (adeno)	any variant (LoF)	resistance	PD1 blockade (if KRAS co-mutation)	early trials	ASCO 2017 (abstr 9016)	B2
		lung (adeno)	any variant (LoF)	resistance	MEK inhibitors + docetaxel in KRAS mutant	preclinical	22425996	B3
		lung (adeno)	any variant (LoF)	sensitivity	MEK inhibitors	preclinical	19165201	B3
		lung (adeno)	any variant (LoF)	sensitivity	SRC inhibitors (in combination with PI3K/MEK inhibitors)	preclinical	20541700	B3
		lung (adeno)	any variant (LoF)	sensitivity	mTOR inhibitors	preclinical	19165201	B3
		unspecified	any variant (LoF)	sensitivity	mTOR inhibitors	preclinical	19541609	B3
		pancreatic	D194E (LoF)	response	everolimus	case report	21189378	B2
NOTCH1	G434C	mantle cell lymphoma	any variant (GoF)	sensitivity	Gamma secretase inhibitors	preclinical	22210878	B3
STK11	E317K D358N D359Y	lung (adeno)	any variant (LoF)	sensitivity	phenformin	preclinical	23352126	B3

**Other genes:** here you can find other genes that might be interesting to check (information from Target DB<sup>3</sup> and Meric-Bernstam list<sup>4</sup>). No level information is provided in this section.

[1] "No other genes found"

<sup>1</sup>Dienstmann et al., Cancer Discov (2015), v20.0

<sup>2</sup>Griffith et al., Nat Genet (2017), 01-May-2018

<sup>3</sup>Van Allen et al., Nature medicine 20.6 (2014): 682-688, v3

<sup>4</sup>Meric-Bernstam et al., J Natl Cancer Inst. 107(7) (2015)