


**GI-Tumor Ösophagus**

GENLISTE							
ABL1 Exons 4-9	ACVR1B	AKT1 Exon 3	<b>AKT2</b>	AKT3	<b>ALK</b> Exons 20-29 Introns 18,19	ALOX12B	AMER1 (FAM123B)
<b>APC</b>	AR	ARAF Exons 4,5,7, 11,13,15,16	<b>ARFRP1</b>	<b>ARID1A</b>	ASXL1	ATM	ATR
ATRX	<b>AURKA</b>	AURKB	AXIN1	AXL	<b>BAP1</b>	BARD1	BCL2
BCL2L1	<b>BCL2L2</b>	BCL6	BCOR	BCORL1	BCR Introns 8,13,14	<b>BRAF</b> Exons 11-18 Introns 7-10	<b>BRCA1</b> Introns 2,7,8,12, 16,19,20
<b>BRCA2</b> Intron 2	BRD4	BRIP1	BTG1	BTG2	BTK Exons 2,15	<b>CTlorf30</b> (EMSY)	CALR
CARD11	CASP8	CBFB	CBL	<b>CCND1</b>	<b>CCND2</b>	<b>CCND3</b>	<b>CCNE1</b>
CD22	<b>CD274</b> (PD-L1)	CD70	CD74 Introns 6-8	CD79A	CD79B	CDC73	CDH1
CDK12	<b>CDK4</b>	<b>CDK6</b>	CDK8	CDKN1A	CDKN1B	<b>CDKN2A</b>	<b>CDKN2B</b>
CDKN2C	CEBPA	CHEK1	<b>CHEK2</b>	CIC	<b>CREBBP</b>	CRKL	CSF1R
CSF3R	CTCF	CTNNA1	<b>CTNNB1</b> Exon 3	CUL3	CUL4A	CXCR4	CYP17A1
DAXX	DDR1	<b>DDR2</b> Exons 5,17,18	DIS3	DNMT3A	DOTIL	EED	<b>EGFR</b> Introns 7,15,24-27
<b>EP300</b>	EPHA3	EPHB1	EPHB4	<b>ERBB2</b>	<b>ERBB3</b> Exons 3,6-8, 10,12,20, 21,23-25	ERBB4	ERCC4
ERG	<b>ERRF1</b>	<b>ESR1</b> Exons 4-8	ETV4 Intron 8	ETV5 Introns 6,7	<b>ETV6*</b> Introns 5,6	EWSR1 Introns 7-13	<b>EZH2</b> Exons 4,16-18
<b>EZR</b> Introns 9-11	FAM46C	FANCA	FANCC	FANCG	FANCL	FAS	<b>FBXW7</b>
FGF10	<b>FGF12</b>	FGF14	<b>FGF19</b>	<b>FGF23</b>	<b>FGF3</b>	<b>FGF4</b>	FGF6
<b>FGFR1</b> Introns 1,5 Intron 17	<b>FGFR2</b> Intron 7 Intron 17	<b>FGFR3**</b> Exons 7,9	FGFR4	FH	FLCN	FLT1	<b>FLT3</b> Exons 14,15,20
FOXL2	FUBP1	GABRA6	GATA3	GATA4	GATA6	GJD4 (CT7orf39)	<b>GNAI1</b> Exons 4,5
GNA13	<b>GNAQ</b> Exons 4,5	<b>GNAS</b> Exons 1,8	GRM3	GSK3B	H3F3A	HDAC1	<b>HGF</b>
HNF1A	<b>HRAS</b> Exons 2,3	HSD3B1	ID3	<b>IDH1</b> Exon 4	<b>IDH2</b> Exon 4	IGF1R	IKBKE
IKZF1	INPP4B	IRF2	IRF4	IRS2	JAK1	<b>JAK2</b> Exon 14	<b>JAK3</b> Exons 5,11-13, 15,16
JUN	KDM5A	KDM5C	<b>KDM6A</b>	KDR	KEAP1	KEL	<b>KIT</b> Exons 8,9,11,12,13,17 intron 16
KLHL6	<b>KMT2A</b> (MLL) Introns 6, 8-11 Intron 7	<b>KMT2D</b> (MLL2)	<b>KRAS</b>	LTK	LYN	MAF	<b>MAP2K1</b> (MEK1) Exons 2,3

<b>MAP2K2</b> (MEK2) Exons 2-4,6,7	MAP2K4	MAP3K1	MAP3K13	MAPK1	<b>MCL1</b>	<b>MDM2</b>	MDM4
MED12	MEF2B	MEN1	MERTK	<b>MET</b>	MITF	MKNK1	MLH1
MPL Exon 10	MRE11A	MSH2 Intron 5	MSH3	MSH6	MST1R	MTAP	<b>MTOR</b> Exons 19,30,39,40, 43-45,47,48, 53,56
MUTYH	MYB Intron 14	<b>MYC</b> Intron 1	<b>MYCL</b> (MYCL1)	MYCN	MYD88 Exon 4	NBN	<b>NF1</b>
NF2	<b>NFE2L2</b>	<b>NFKBIA</b>	NKX2-1	<b>NOTCH1</b>	<b>NOTCH2</b> Intron 26	NOTCH3	<b>NPM1</b> Exons 4-6,8,10
NRAS Exons 2,3	NSD3 (WHSCIL1)	NT5C2	<b>NTRK1</b> Exons 14,15 Introns 8-11	NTRK2 <sup>8</sup> Intron 12	<b>NTRK3</b> Exons 16,17	NUTM1 Intron 1	P2RY8
<b>PALB2</b>	PARK2	PARP1	PARP2	PARP3	PAX5	PBRM1	<b>PDCD1</b> (PD-1)
<b>PDCD1LG2</b> (PD-2)	<b>PDGFRA</b> Exons 12,18 Introns 7,9,11	<b>PDGFRB</b> Exons 12-21,23	PDK1	PIK3C2B	PIK3C2G	<b>PIK3CA</b> Exons 2,3,5-8,10, 14,19,21, kodierende Exons 1,2,4-7,9, 13,18,20	PIK3CB
<b>PIK3R1</b>	PIM1	PMS2	POLD1	POLE	PPARG	PPP2R1A	PPP2R2A
PRDM1	PRKARIA	PRKCI	<b>PTCH1</b>	<b>PTEN</b>	PTPN11	PTPRO	QKI
RAC1	RAD21	RAD51	RAD51B	RAD51C	RAD51D	RAD52	RAD54L
<b>RAF1</b> Exons 3,4,6, 7,10,14,15,17 Introns 4-8	RARA Intron 2	<b>RB1</b>	RBM10	REL	<b>RET</b> Exons 11,13-16 Introns 7,8,9-11	<b>RICTOR</b>	RNF43
<b>ROS1</b> Exons 31,36-38,40 Introns 31-35	RPTOR	RSPO2 Intron 1	SDC4 Intron 2	SDHA	SDHB	SDHC	SDHD
SETD2	SF3B1	SGK1	SLC34A2 Intron 4	SMAD2	<b>SMAD4</b>	<b>SMARCA4</b>	SMARCB1
<b>SMO</b>	SNCAIP	SOCS1	<b>SOX2</b>	SOX9	<b>SPEN</b>	SPOP	<b>SRC</b>
STAG2	STAT3	<b>STK11</b>	SUFU	SYK	TBX3	TEK	<b>TERC</b> ncRNA
<b>TERT</b> Promoter	TET2	TGFBR2	TIPARP	<b>TMPRSS2</b> Introns 1-3	TNFAIP3	TNFRSF14	<b>TP53</b>
<b>TSC1</b>	TSC2	TYRO3	U2AF1	<b>VEGFA</b>	VHL	<b>WHSC1</b> (MMSET)	WT1
XPO1	XRCC2	<b>ZNF217</b>	ZNF703				

Referenzen:  
 1. E. Papadopoulos et al., World J Gastrointest Oncol. 2016 Nov 15; 8(11): 772-785  
 2. J. Munding, A. Tannapfel, Ruhr-Universität Bochum, Institut für Pathologie, Bochum [https://www.journalonko.de/artikel/lesen/Molekulare\\_Klassifikation\\_gastrointestinaler\\_Tumoren/page:5](https://www.journalonko.de/artikel/lesen/Molekulare_Klassifikation_gastrointestinaler_Tumoren/page:5)

Alle Gene, die einen roten Hintergrund haben, sind Gene, bei denen bereits Therapien zugelassen sind oder diese sich zurzeit in klinischer Erprobung befinden.