

cancer	HRAS					KRAS					NRAS					mutation bias			
	G12*	G13*	Q61*	A146*	Others	G12*	G13*	Q61*	A146*	Others	G12*	G13*	Q61*	A146*	Others		H	K	N
GBM	0	0	1	0	7	8	0	1	1	4	4	0	7	0	0	G12A	11	872	94
LGG	0	0	0	0	1	11	1	5	0	2	4	2	4	0	1	G12C	23	2,139	109
HNSC	90	35	35	0	20	63	14	5	1	12	25	2	17	0	8	G12D	50	5,894	641
THCA	16	6	56	0	7	29	10	21	0	18	5	2	255	0	17	G12R	4	886	32
THCAA	9	0	37	0	1	15	7	9	0	0	1	0	126	0	4	G12S	68	640	198
THCAF	9	9	21	0	1	46	15	9	0	1	6	1	137	0	0	G12V	150	4,097	89
LUAD	0	2	2	0	3	3,573	239	81	7	263	8	0	51	0	13	G13A	0	14	12
LUSC	0	3	4	0	1	159	7	13	0	14	1	0	8	0	1	G13C	6	162	31
BRCA	14	3	9	0	12	73	22	9	0	4	3	1	12	0	6	G13D	22	1,448	336
ESCA	2	0	2	0	3	32	9	1	1	9	0	0	1	0	1	G13R	58	26	123
STAD	8	0	1	0	2	98	44	6	5	5	2	1	3	0	1	G13S	9	34	5
SIAD	0	0	0	0	0	201	42	3	3	12	1	0	1	0	0	G13V	21	23	71
COAD	0	2	0	0	11	2,216	582	46	50	86	25	8	44	0	18	Q61E	1	7	5
READ	0	0	0	0	2	861	254	28	33	38	23	5	36	0	4	Q61H	17	318	208
LIHC	0	0	1	0	1	13	6	3	0	5	0	0	9	0	0	Q61K	84	38	1,046
CHOL	0	0	0	0	0	467	37	18	3	5	7	6	18	0	1	Q61L	87	64	323
GBC	0	0	0	0	2	110	11	1	0	3	2	0	2	0	1	Q61P	2	15	38
PAAD	0	0	0	0	0	5,172	65	130	2	110	1	1	2	0	5	Q61R	186	90	1,439
KIRC	1	0	1	0	1	9	6	3	0	1	1	0	2	0	2	A146G	0	0	0
BLCA	111	24	71	0	13	96	11	9	5	8	4	1	22	0	4	A146V	0	42	1
PRAD	2	3	33	0	2	79	26	9	0	3	7	0	1	0	0	A146E/D	0	0	0
OV	0	0	1	0	1	240	11	3	0	2	0	0	15	0	2	A146P	0	9	1
UCEC	0	0	1	0	3	291	64	6	2	17	6	1	9	0	6	A146S	0	0	0
CESC	21	0	2	0	1	69	9	5	0	2	0	0	4	0	1	A146T	1	111	8
SKCM	2	5	25	1	4	27	3	8	2	16	127	93	1,692	7	67	Others	127	812	272
ALL	0	0	1	0	3	140	75	3	15	32	195	89	61	3	10	Total	927	17,741	5,082
AML	0	0	1	0	0	168	82	34	6	55	589	306	333	0	63	New patients/year (USA)			
CML	0	1	0	0	1	32	7	0	10	24	87	26	4	0	13	cancer	K: G12C	K: G12D	
PCM	0	0	1	0	2	49	26	56	14	33	16	27	155	0	11	LUAD	6,537	3,590	
GBM , glioblastoma multiforme; LGG , lower grade glioma; HNSC , head and neck squamous cell carcinoma; THCA , papillary thyroid carcinoma; THCAA , anaplastic thyroid carcinoma; THCAF , follicular thyroid carcinoma; LUAD , lung adenocarcinoma; LUSC , lung squamous cell carcinoma; BRCA , breast invasive carcinoma; ESCA , esophageal carcinoma; STAD , stomach adenocarcinoma; SIAD , small intestine adenocarcinoma; COAD , colon adenocarcinoma; READ , rectal adenocarcinoma; LIHC , liver hepatocellular carcinoma; CHOL , cholangiocarcinoma; GBC , gallbladder carcinoma; PAAD , pancreatic adenocarcinoma; KIRC , kidney renal clear cell carcinoma; BLCA , bladder urothelial carcinoma; PRAD , prostate adenocarcinoma; OV , ovarian serous cystadenocarcinoma; UCEC , uterine corpus endometrial carcinoma; CESC , cervical squamous carcinoma and endocervical adenocarcinoma; SKCM , skin cutaneous melanoma; ALL , acute lymphoblastic leukemia; AML , acute myeloid leukemia; CML , chronic myeloid leukemia; PCM , plasma cell myeloma.																COAD	2,547	9,854	
																READ	1,196	5,904	
																PAAD	916	18,208	
																UCEC	915	3,202	
																LUSC	738	796	
																THCAA	615	769	
																BLCA	538	886	
PRAD	480	1,056																	
BRCA	431	928																	
All cancer	19,926	60,990																	