**Data S1, related to Figure 1.** LC-MS/MS analyses of native human IgA, and monomeric & dimeric KRAS<sup>G12D</sup>-specific IgA1.

## LC-MS/MS analysis of native IgA

	1 200		50 Proteins in 46 Clusters With 23 Filtered Out	Accession Number	Alternate ID	Molecular Weight	Protein Grouping Ambiguity	BioSample 1
1	$\leq$		Immunoglobulin heavy constant alpha 1 OS=Homo sapiens OX=9606 GN=IGHA1 PE=1 SV=2	IGHA1_HUMAN	IGHA1	38 kDa	*	9
∃ 2			Cluster of Immunoglobulin kappa light chain OS=Homo sapiens OX=9606 PE=1 SV=1 (IGK_HUMAN)	IGK_HUMAN [2]		23 kDa	*	8
	2.1 2.2		Immunoglobulin kappa light chain OS=Homo sapiens OX=9606 PE=1 SV=1	IGK_HUMAN	TCVC	23 kDa 12 kDa	*	6
∃ 3	2.2 V		Immunoglobulin kappa constant OS=Homo sapiens OX=9606 GN=IGKC PE=1 SV=2 Cluster of Immunoglobulin lambda constant 2 OS=Homo sapiens OX=9606 GN=IGLC2 PE=1 SV=1 (IGLC2 HUMAN)	IGKC_HUMAN IGLC2 HUMAN[3]	IGKC IGLC2	11 kDa	*	4
	3.1 🗸		Immunoglobulin lambda constant 2 OS=Homo sapiens OX=9606 GN=IGLC2 PE=1 SV=1		IGLC2	11 kDa	*	3
	3.2 🗸		Immunoglobulin lambda-1 light chain OS=Homo sapiens OX=9606 PE=1 SV=1	IGL1_HUMAN	IGLCZ	23 kDa	.⊋i	3
4	Z		Immunoglobulin heavy constant mu OS=Homo sapiens OX=9606 GN=IGHM PE=1 SV=4	IGHM HUMAN	IGHM	49 kDa	- î	6
⊞ 5	Ż		Cluster of Immunoglobulin kappa variable 3-20 05=Homo sapiens 0X=9606 GN=IGKV3-20 PE=1 SV=2 (KV320 HUMAN)	KV320 HUMAN [2]	IGKV3-20	13 kDa	*	3
6	Ż		Immunoqlobulin J chain 05=Homo sapiens 0X=9606 GN=JCHAIN PE=1 SV=4	IGJ HUMAN	JCHAIN	18 kDa		2
<b>3 7</b>			Cluster of Immunoglobulin heavy variable 3-9 OS=Homo sapiens OX=9606 GN=IGHV3-9 PE=1 SV=2 (HV309_HUMAN)	HV309_HUMAN [3]	IGHV3-9	13 kDa	*	4
8			Immunoglobulin heavy variable 3-23 O5=Homo sapiens OX=9606 GN=IGHV3-23 PE=1 5V=2	HV323_HUMAN (+2)		13 kDa		2
9	~		Immunoglobulin lambda variable 1-51 OS=Homo sapiens OX=9606 GN=IGLV1-51 PE=1 SV=2	LV151 HUMAN	IGLV1-51	12 kDa	- 1	2
10	~		Immunoglobulin alpha-2 heavy chain O5=Homo sapiens OX=9606 PE=1 SV=2	IGA2_HUMAN		49 kDa	*	4
11	~		Immunoglobulin lambda variable 3-10 OS=Homo sapiens OX=9606 GN=IGLV3-10 PE=3 SV=2	LV310_HUMAN	IGLV3-10	12 kDa	- 1	1
12	~	₩	Immunoglobulin kappa variable 3-15 OS=Homo sapiens OX=9606 GN=IGKV3-15 PE=1 SV=2	KV315_HUMAN (+1)	IGKV3-15	12 kDa	- 7	1
13	~	₩	Immunoglobulin heavy variable 4-34 OS=Homo sapiens OX=9606 GN=IGHV4-34 PE=1 SV=2	HV434_HUMAN (+4)	IGHV4-34	14 kDa	- 1	2
14	~	₩	Immunoglobulin kappa variable 4-1 O5=Homo sapiens OX=9606 GN=IGKV4-1 PE=1 SV=1	KV401_HUMAN	IGKV4-1	13 kDa	- 1	2
15	~		Immunoglobulin heavy variable 1-3 OS=Homo sapiens OX=9606 GN=IGHV1-3 PE=3 SV=1	HV103_HUMAN	IGHV1-3	13 kDa	*	1
16	~		Immunoglobulin heavy variable 1-2 OS=Homo sapiens OX=9606 GN=IGHV1-2 PE=1 SV=2	HV102_HUMAN	IGHV1-2	13 kDa	*	1
17	~		Immunoglobulin kappa variable 3-11 OS=Homo sapiens OX=9606 GN=IGKV3-11 PE=1 SV=1	KV311_HUMAN (+1)	IGKV3-11	13 kDa	- 1	1
18	~		Immunoglobulin lambda variable 1-47 OS=Homo sapiens OX=9606 GN=IGLV1-47 PE=1 SV=2	LV147_HUMAN	IGLV1-47	12 kDa		1
19	~		Immunoglobulin lambda variable 3-21 O5=Homo sapiens OX=9606 GN=IGLV3-21 PE=1 5V=2	LV321_HUMAN (+1)		12 kDa		1
20	$\leq$		Immunoglobulin heavy variable 3-49 OS=Homo sapiens OX=9606 GN=IGHV3-49 PE=3 SV=1	HV349_HUMAN	IGHV3-49	13 kDa		1
21	$\leq$		Immunoglobulin kappa variable 2D-30 OS=Homo sapiens OX=9606 GN=IGKV2D-30 PE=3 SV=1	KVD30_HUMAN	IGKV2D-30	13 kDa		1
22	~		Immunoglobulin lambda variable 3-19 OS=Homo sapiens OX=9606 GN=IGLV3-19 PE=1 SV=2	LV319_HUMAN	IGLV3-19	12 kDa		1
23	~	1	Immunoglobulin heavy variable 3-64D OS=Homo sapiens OX=9606 GN=IGHV3-64D PE=3 SV=1	HV64D_HUMAN	IGHV3-64D	13 kDa		1

## LC-MS/MS analysis of purified monomeric and dimeric KRas<sup>G12D</sup> IgA1

