

**Table S5. Number of validated proteins and their corresponding genes from ISGAP and six-frame translation.**

Data	Type	Mapped in Assembly		ISGAP			Six-frame translation		
		#Mapped Protein	#Mapped Region	#Mapped Protein	#Mapped Region	#Annotated Gene	#Mapped Protein	#Mapped Region	#Annotated Gene
Onion	Whole <sup>a</sup>	398	1,008	351	866	348	344	746	281
	Both <sup>b</sup>	322	693	322	693	255	322	693	255
	Specific <sup>c</sup>	188	315	120	173	94	35	53	27
	Single Exon <sup>d</sup>	396	884	351	767	326	344	746	281
	Multiple Exon <sup>e</sup>	92	124	78	99	23	0	0	0
RefSeq	Whole <sup>a</sup>	49,257	126,607	45,724	114,593	8,324	44,448	93,256	6,526
	Both <sup>b</sup>	42,126	87,168	42,126	87,168	5,984	42,126	87,168	5,984
	Specific <sup>c</sup>	21,056	39,439	16,373	27,425	2,341	3,393	6,088	543
	Single Exon <sup>d</sup>	47,047	101,888	43,970	93,595	6,752	44,443	93,251	6,524
	Multiple Exon <sup>e</sup>	14,450	24,719	12,904	20,998	1,573	6	5	3

<sup>a</sup>Whole cases in the validation

<sup>b</sup>Cases which both gene sets covered

<sup>c</sup>Cases that genes of ISGAP or six-frame translation specifically covered

<sup>d</sup>Cases that public proteins were mapped as single exon gene

<sup>e</sup>Cases for multiple exon containing genes