

Table S5. SNPs identified in conserved elements, *HAS2* and *HAS2 antisense* after targeted sequencing.

The dogs used for targeted sequencing were as follows: Control 1= Pug, Control 2= Napolitan Mastiff, Control 3= Standard Poodle, Shar-Pei 1-2 are of meatmouth type and Shar-Pei 3-4 are of the traditional type. Seven SNPs in conserved elements around *HAS2* and two SNPs (Chr 13: 23,348,686 and 23,379,995) in *HAS2* and *HAS2 antisense* only appeared in the four sequenced Shar-Pei dogs and not in control breeds but excluded as causative for the breed-specific skin phenotype (hyaluronanosis) after further genotyping in more control breeds.

HAS2											
Site on Chr. 13	Location**	Ref*	Control dogs			Shar-Pei (M)		Shar-Pei (T)		Shar-Pei unique in targeted seq.	Shar-Pei unique after further genotyping
			1	2	3	4	5	6	7		
23379407	744 bp up upstream	A	A	A/C	A/C	A	A	C	A/C	NO	NO
23379370	707 bp upstream	G	G	G	G	A/G	G	G	G	NO	NO
23379364	701 bp upstream	G	G	G	G	T	G	G	G	NO	NO
23379182	519 bp upstream	C	G	C	C	C	C	C	C	NO	NO
23379176	513 bp upstream	G	C	G/C	C	G	G	G	G	NO	NO
23378855	192 bp upstream	C	G	C	C	C	C	G	C	NO	NO
23348967	Exon 4	G	G	A/G	G	G	G	G	G	NO	NO
23348757	3'UTR	G	A	A	A/G	G	G	G	G	NO	NO
23348686	3'UTR	T	T	T	T	G	G	G	G	YES	NO
23347967	3'UTR	G	G	G	A/G	A	G	T	T	NO	NO
23347942	3'UTR	T	T	C	T	T	T	T	T	NO	NO
23347858	3'UTR	T	T	G	T	T	T	T	T	NO	NO
HAS2 antisense											
23375850	853 bp upstream	C	C	A	C	C	C	C	C	NO	NO
23375850	644 bp upstream	A	A	G	A	G	G	G	G	NO	NO
23376330	373 bp upstream	T	T	T	T	T	A/T	A	T	NO	NO
23376461	242 bp upstream	T	T	C/T	C/T	T	C/T	C	C/T	NO	NO
23376466	237 bp upstream	C	C	C	C	C	G/C	G	G	NO	NO
23376476	227 bp upstream	T	T	C	T	T	T	T	T	NO	NO
23376527	176 bp upstream	C	C	G/C	C	C	G	G	G	NO	NO

23376537	166 bp upstream	C	C	C/T	C	C	C	C	C	NO	NO
23377354	Exon 1	C	C	G	C	G	C	G	C	NO	NO
23379995	Intron 3****	T	T	T	T	G	G	G	G/T	YES	NO
23381709	Exon 4	T	A/T	T	A/T	T	A/T	T	T	NO	NO
23381736	Exon 4	T	T	G/T	T	T	T	T	T	NO	NO
23381740	Exon 4	C	C	A/C	C	C	C	C	C	NO	NO
Conserved elements flanking HAS2											
23055753		G	G	G	G	A	A	A	A	YES	NO
23478618		G	G	G	G	A	A	A	A/G	YES	NO
24399299		A	A	A	A	C	C	C	A	YES	NO
24110400		G	G	G	G	A	A	A	G	YES	NO
24301818		C	C	C	C	G	G	C	C	YES	NO
24344851		T	T	T	T	G	G	T	T	YES	NO
23516499		T	T	T	T	A	A	T	T	YES	NO

Boxer reference ** Location annotation corresponds to alignment with human Ensembl transcript ENST00000303924 *** Location annotation corresponds to alignment with human Ensembl transcript ENST00000514180 **** Intron 3, 2 bp from exon 3
(M) Meatmouth type Shar-Pei
(T) Traditional type Shar-Pei