

## **Description of Additional Supplementary Files**

File Name: Supplementary Data 1

Description: Source, breeds, sequence quality control of published canine tumour WES and WGS data.

File Name: Supplementary Data 2

Description: Breed-specific germline base substitutions and small indels

File Name: Supplementary Data 3

Description: Canine somatic mutations, copy number alterations (CNAs), and their significance levels.

File Name: Supplementary Data 4

Description: Canonical cancer pathway genes, and human data source.

File Name: Supplementary Data 5

Description: Problematic gene list, association between TMB and gene mutations or pathway alterations, and human TMB data source.

File Name: Supplementary Data 6

Description: Canine coding and noncoding mutation signature discovery with WES and WGS data.

File Name: Supplementary Software 1

Description: Canine breed validation and prediction software v1.0.