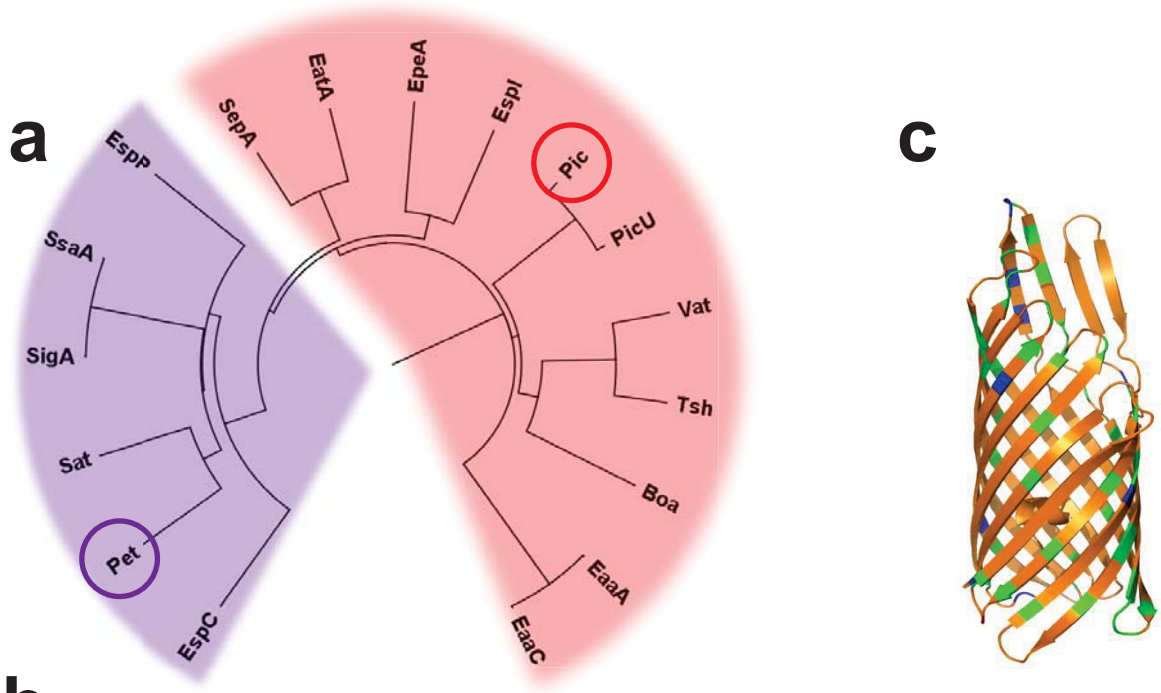

b

```
Pet             TLTVDELTTSNSAFVMRTNTQQADQLIVKNKLEGANNLLLVDFIEKKGNDKNGLNIDLVKAPENTSKDVFKTETQTIGFSDVTPEIKQQEKDGKSVWTLT
Pic             TLTVNKLDATGSDFVLRTDLKNADKINVTEKATGSDNSLNVSFMNNPAQG-QALNIPLVTAPAGTSAEMFKAGTRVTGFSRVTPTLHVDTSGGNTKWILD
Consensus       ****::* ::.* **:**: ::**:: *.:*  *::* * *.*::: .:. :.*** **.** .** ::**: *:. *** *** :: : ..*:: * *

Pet             GYKTVANADAAKKATSLMSGGYKAFLAEVNNLNKRMGDLRDINGEAGAWARIMSGTGSAGGGFSDNYTHVQVGADNKHELDGLDLFTGVTMTYTDSHAGS
Pic             GFKAEADKAAAAKADSFMNAGYKNFMTEVNNLNKRMGDLRDTNGDAGAWARIMSGAGSADGGYSDNYTHVQVGFDKKHELDGVDLFTGVTMTYTDSSADS
Consensus       *:*: *:  ** ** *:*..*** *::*********** **:**********:***.**:********** *:******:************* *.*

Pet             DAFSGETKSVGAGLYASAMFESGAYIDLIGKYVHHDNEYTATFAGLGTRDYSSHSWYAGAEVGYRYHVTDSAWIEPQAELVYGAVSGKQFSWKDQGMNLT
Pic             HAFSGKTKSVGGGLYASALFESGAYIDLIGKYIHHDNDYTGNFASLGTKHYNTHSWYAGAETGYRYHLTEDTFIEPQAELVYGAVSGKTFRWKDGDMDLS
Consensus       .****:*****.******:*************:****:**..**.***:.*.:********.*****:*:.::*************** * *** .*:*:

Pet             MKDKDFNPLIGRTGVDVGKSFSGKDWKVTARAGLGYQFDLFANGETVLRDASGEKRIKGEKDGRMLMNVGLNAEIRDNVRFGLEFEKSAFGKYNVDNAIN
Pic             MKNRDFSPLVGRTGVELGKTFSGKDWSVTARAGTSWQFDLLNNGETVLRDASGEKRIKGEKDSRMLFNVGMNAQIKDNMRFGLEFEKSAFGKYNVDNAVN
Consensus       **::**.**:*****::**:******.****** .:****: ********************.***:***:**:*:**:*******************:*

Pet             ANFRYSF
Pic             ANFRYMF
Consensus       ***** *
```

Figure S7. Comparison of the Pic and Pet SPATE proteins. A. Phylogenetic tree of SPATE family members. Pic clusters with the extracellular proteases (pink shading) and is located on a separate branch to Pet which is grouped with the toxins (purple shading). **B.** Amino acid sequence alignment of Pic and Pet. Identical residues are marked with asterisks and conserved residues with dots. The position of the cleavage site, which separates the passenger domain from the β-domain, is highlighted by red triangles. **C.** Model of Pet β-domain demonstrating the position of amino acid residues which are not identical in Pic. Conserved residues are highlighted by green shading. Non-identical residues are denoted by blue shading.