

## Supplementary Material

### Characterization of ML-005, a Novel Metaproteomics-Derived Esterase

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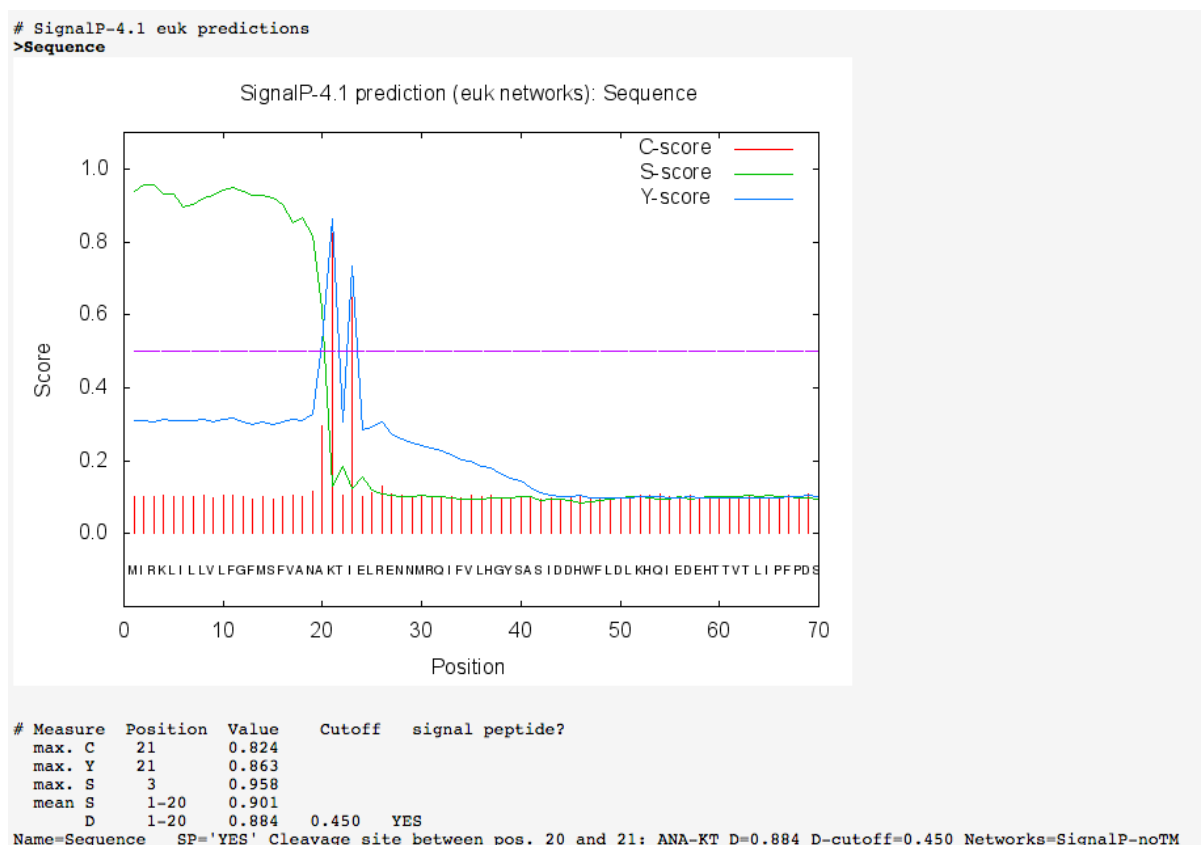
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#### Supplementary Figures



**Supplementary Figure S1:** SignalP prediction server predicted the presence of a signal peptide with a cleavage site between position 20 and 21 (Ferrari et al., 2014)

CLUSTAL O(1.2.4) multiple sequence alignment

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ML-005_without_SignalSeq  -----KTIELRENNMRQIFVLHGYSASIDDHWFLLDKHQIEDEHT
ML005_with_SignalSeq      MIRKLILLVLFGMSFVANAKTIELRENNMRQIFVLHGYSASIDDHWFLLDKHQIEDEHT
YDEN_P96671                -----MTKQVYIIHGYRASSTNHWFPLKKRLLADGV
                               *:*** ** :*** **: : .

ML-005_without_SignalSeq  TVTLIPFPDSEHPDVAWQKVLQDHIPVVNENTYFVAHSLGVI TLLHFLQHDY-QKIGG
ML005_with_SignalSeq      TVTLIPFPDSEHPDVAWQKVLQDHIPVVNENTYFVAHSLGVI TLLHFLQHDY-QKIGG
YDEN_P96671                QADILNMPNPLQPRLEDWLD TSLYQHTLHENTYLVASHLGC PAILRFLHLQLRKQLGG
                               . :*: :* :* :* :* :* :* :* :* :* :* :* :* :* :*

ML-005_without_SignalSeq  MILVSGFSGPISDFSPLDAYITKSKVDTSYFHDIKKKLVYLSDNDDLVPVKLTIQLAKEI
ML005_with_SignalSeq      MILVSGFSGPISDFSPLDAYITKSKVDTSYFHDIKKKLVYLSDNDDLVPVKLTIQLAKEI
YDEN_P96671                IILVSGFAKSLPTLQMLDEFTQGSFDHQKIIESAKHRAVIASKDDQIVPFSFSKDLAQOI
                               :*****: : :. ** : * . . :. :* :* :* :* :* :* :* :* :*

ML-005_without_SignalSeq  DAPYITVPNGGHFLGREGYTFPQVVNSLKEMLESKLEHHHHHH
ML005_with_SignalSeq      DAPYITVPNGGHFLGREGYTFPQVVNSLKEMLESKLEHHHHHH
YDEN_P96671                DAALYEVQHGGHFLDEEGFTSLPIVYDVLTSYFSKETR-----
                               **      * :***** **:*: * : *.. :. :.

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**Supplementary Figure S2:** Alignment of ML-005 with and without signal sequence and comparison with *Bacillus subtilis* YdeN (P96671).