

Supplementary Information

A. Pre-Protein A-CatD-V5-His

584 amino acids 64,688 dalton

MKKKNIYSIRKLGVGIASVTLGTLTLLISGGVTPAANA AQHDEAVDNKFNKEQQNAFYEI
LHLPNLNNEEQRNAFIQSLKDDPSQSANLLAEAKKLNDAAQAPKVDNKFNKEQQNAFYEI
LHLPNLNNEEQRNAFIQSLKDDPSQSANLLAEAKKLNDAAQAPKVDANSYNLICIFYTNWA
QYRPGLSFKPDDINPCLCTHLYAFAGMQNNEITTI EWNDVTLYKAFNDLKNRNSKL
KTLAIGGWNFGTAPFTTMVSTSQRQTFTITSVIKFLRQYGF DGLDLDWEYPGSRGSP
PQDKHLFTVLVKEMREAFEQEAI ESNRPRLMVTA AVAGGISNIQAGYEIPELSKYLDF
IHVM TYDLHGSWEGYTGENSP LYKYPTETGSNAYLNVDYVMNYWKNNGAPAEKLIVGF
PEYGH TFI LRNP SDNGIGAPTSGDGPAGPYTRQAGFWAYYEICTFLRSGATEVWDASQ
EVPYAYKAN EWLGYDNIKSFSVKAQWLKQNNFGGAMIWAIDLDDFTGSFCDQGKFPLT
STLNKALGISTEGCTAPDVPSEPVTTTPP ARGHPFEGKPIPNPLLGLDSTRTGHHHHHH

B. Mature -Protein A-CatD-V5-His

548 amino acids 61,063 dalton

AQHDEAVDNKFNKEQQNAFYEI LHLPNLNNEEQRNAFIQSLKDDPSQSANLLAEAKKLN
DAQAPKVDNKFNKEQQNAFYEI LHLPNLNNEEQRNAFIQSLKDDPSQSANLLAEAKKLN
DAQAPKVDANSYNLICIFYTNWAQYRPGLSFKPDDINPCLCTHLYAFAGMQNNEITT
IEWNDVTLYKAFNDLKNRNSKLKTLAIGGWNFGTAPFTTMVSTSQRQTFTITSVIK
LRQYGF DGLDLDWEYPGSRGSP PQDKHLFTVLVKEMREAFEQEAI ESNRPRLMVTA AV
AGGISNIQAGYEIPELSKYLDFIHVM TYDLHGSWEGYTGENSP LYKYPTETGSNAYLN
VDYVMNYWKNNGAPAEKLIVGFPEYGH TFI LRNP SDNGIGAPTSGDGPAGPYTRQAGF
WAYYEICTFLRSGATEVWDASQ EVPYAYKAN EWLGYDNIKSFSVKAQWLKQNNFGGAM
IWAIDLDDFTGSFCDQGKFPLTSTLNKALGISTEGCTAPDVPSEPVTTTPP ARGHPFEG
KPIPNPLLGLDSTRTGHHHHHH

Figure S1. Deduced amino acid sequences and molecular masses of the recombinant CatD expressed in *E. coli*. (A) Pre-Protein A-CatD-V5-His; (B) Mature-Protein A-CatD-V5-His. The amino acid sequences are color coded, consistent with Figure 1B. Blue, signal sequence of Protein A; Yellow, truncated form of Protein A; Pink, catalytic domain (CatD); Green, V5-His sequence.