

Isolation and mechanistic characterization of a novel zearalenone-degrading enzyme

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Figure S1 Structural simulation of FSZ by SWISS-Model

Table:

Table S1 18s rDNA sequencing of ZEN-S-FS10

| Name | Homology | Reference species |
|------------|--------------|-------------------|
| ZEN-S-FS10 | 696/703(99%) | Aspergillus niger |

Table S2 Sequencing and splicing results of ZEN-S-FS10

| Sequencing |
|---|
| TGCCCCCCCGGAATACCAGGGGGCGCAATGTGCGTCAAAGACTCGATGA TTCACTGAATTCTGCAATTACATTAGTTATCGCATTGCTGCGTTCTTC ATCGATGCCGAACCAAGAGATCCATTGTTGAAAGTTTAAGTATTGCA TTCAATCAACTCAGACTGCACGCTTCAGACAGTGTTCGTGTTGGGGTC TCCGGCGGGCACGGGCCGGGGCAGAGGCAGCCCCCGCGGCCGA CAAGCGGGGGCCCAGCAAGAACAGGGTACAATAGACACGGATGGG AGGTTGGGCCAAAGGACCCGCACTCGTAATGATCCTTCCGTTAGGGG AACCTGCGGAAGGATCATTACCGAGTGCGGGTCCTTGGGCCAACCTC CCATCCGTGTCTATTGTACCCCTGTTGCTTCGGCGGGCCGCTTGTGCG GCCGCCGGGGGGCGCCTCTGCCCGGGCCGTGCCGCCGGAGAC CCCAACACGAACACTGTCTGAAAGCGTCAGTCTGAGTTGATTGAATGC AATCAGTTAAAACCTTCAACAATGGATCTCTGGTCCGCATCGATGAA GAACCGAGCGAAATGCGATAACTAATGTGAATTGCAGAATTCACTGAAAT CATCGAGTCTTGAACGCACATTGCGCCCCCTGGTATTCCGGGGGCATG CCTGTCCGAGCGTCATTGCTGCCCTCAAGCCGGCTGTGTTGGTC GCCGTCCCCCTCTCCGGGGGACGGGCCGAAAGGCAGCGCGGCCACC GCGTCCGATCCTCGAGCGTATGGGGCTTGTACATGCTCTGTAGGATTG GCCGGCGCCTGCCGACGTTCCAACCATTCTTCCAGGTTGACCTCGG ATCAGGTAGGGATAACCGCTGAACCTAACATCAAAAGGCCGGAGGA AACCATCATAAACCTT |

Table S3 Amino acid sequencing results of FSZ

| Protein name | Accession | Molecular weight (kDa) | Protein score | Source | characteristic peptide sequence |
|--------------------------|-------------------|------------------------|---------------|-------------------|---------------------------------|
| FSZ (unnamed protein) | scaffold2.t7 7 | 62.4 | 53.5 | Aspergillus niger | [R].HGVFWTPAGTTAK.[Q] |

Accession: The registration number of the protein in NCBI

Characteristic peptide sequence: Characteristic encoding of this protein different from other proteins

Table S4 The protein sequence of FSZ

| Sequencing |
|--|
| MKFSVVPLLFGATSAVASRLYAASYAGTVTLSLSQSSKGQYELETVAQSTDCGTNPSW |
| L |
| MLDHDRVLYCLDEAVDLANGTLTSFAIRPNGTLSKVVQLETIAGPVMSQFYAPGLPH |
| R |
| KFFAVAHYEGSAVTYSLDPISGVFNRSQTFTYTLPPAPGPVADRQDAPHSHGVVVDP TG |
| Q |
| FVLVPDLGADLIRIFHINPSTGLLEPQAPLVAAPGSGPRHGVFWTPAGTTAKQAKHDVIF |
| YLSELNNHVTGYRVTPSNGTISFTEFYTANSYGGAVPPNGSKVAEIAISPQNNRLVVS |
| NRDDNTFGNNNDSIAVFNCADESGSHPTNVTFGGLYPAYGSSPRQFEMSARNEMIAEAL |
| Q |
| NTHAVGVTKWNGKTGKPVPLVAKKSLVGEVVSVVWDE |

Table S5 Abbreviation

| Abbreviation | Full name |
|---------------|---|
| ZEN | Zearalenone |
| α -ZAL | α -Zearalanol |
| β -ZOL | β -Zearalenol |
| ZAN | Zearalanone |
| ZEN-S-FS10 | The name of the original strain of the degrading enzyme |
| FSZ | Degrading enzyme name |
| CV | Column volume |

Figure:

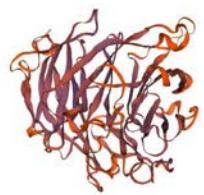


Figure S1 Structural simulation of FSZ by SWISS-Model