

KAFIRIN STRUCTURES (SORGHUM)

Kafirin (*Sorghum bicolor*)

1 MATKIFALLALHALLVSGTTAAII PQCSLAPNAII PQFIPPVTALGNEHLAVQAYP GQQV
61 LSASILQQPIAQLQQQSLAHLTVQTITA PRQQQQQQQQQQFLSSLSALAVANQAAYLQ
121 QQLLTSNPHSLANAAAYQQQQQLLAMANPTAYVQQQLLLSNPQAATNAATYLQQQQFQQ
181 ILPALSQRMANPTAYLQQQQLLPINQLALANTDAYLQQQQLPVNPLVVANPLVAAFLQ
241 QQQLSSFNQISLVNPALSWQQPIIGGAIF

Gamma kafirin protein [*Sorghum bicolor*]

1 MKVLLVALALLAPAASAASTLTGGCGCQTPHLPPPPVHLPPPVHLPPPVHLPPPVHVPP
61 PPPQCHPHPTLPHPHPCPTYPPHPSCHPGHPGSCGVGGGPVTPPILGQCIEFLRHQCS
121 PAATPYCSPQCQALRQCCQQLRQVEPLHRYQAIFGVVLQSIQQQQPQGSSPLPALMAA
181 QIAQQ

ZEIN STRUCTURES (CORN)

Zein

1 MAAKIFSILMLLALSACVLDATIF PQYSQAPIAALLPPYLPSMTASVCENPTLQPYRLQQ
61 AIATSNLPLSPLLFQQSPALSLVQSLVQTIRAQQLQQLVPLINQVALANLSPYSQQQQF
121 LPFNQLSTLNLAAYLQQQLLPFSQLATAYSQQQQFLPFNQLAALNPAAYLQQQILLPFGQ
181 LATTNRASFLTQQQLLPFYQQFSANPATLLQLQQLLPFVQLALTNPAAFYQQHIIGGAIF

26.99 KDa zein protein

1 MATKILSLLALLALFASATNASII PQCSLAPSSII PQFLPPVTSMAFEHPAVQAYRLQQA
61 IAASVLQQPIAQLQQQSLAHLTIQTIATQQQQQFLPALSHLAMVNPVAYLQQQLLASNPL
121 ALANVVANQQQQQLQQLPALSQSLAMVNPAAAYLQQQQLSSSPLAVANAPTYLQQELLQQ
181 IVPALTQLAVANPVAYLQQLLPFNQLTMSNSVAYLQQRQQLNPLAVANPLVAAFLQQQQ
241 LLYNRFSLMNPVLSRQQPIVGGAIFF

Gamma zein.

1 ASATSTHTSGGCGCQPPPPVHLPPPVHLPPPVHLPPPVHLPPPVHLPPPVHLPPPVHVPP
61 PVHLPPPCHYPTQPPRPQPHQPHPQPCPCQPHPSPCQLQGTGCVGSTPILGQCVEFLRH
121 QCSPATPYCSPQCQSLRQCCQQLRQVEPQHRYQAIFGLVLQSIQQQPQSGQVAGLLA
181 AQIAQQLTAMCGLQQPTPCPYAAAGGVPH

Zein-beta precursor (Zein-2) (16 kDa) (Zein ZC1).

1 MKVLIVALALLALAASAASSTSGGCGCQTPPFHLPPPFYMPPPFYLPPQQQPQPWQYPTQ
61 PPQLSPCQQFGSCGVGVSVPFLGQCVEFLRHQCSPAATPYGSPQCQALQQCCCHQIRQV
121 EPLHRYQATYGVVLQSFLLQQQPQGELAALMAAQAQQLTAMCGLQLQQPGPCPCNAAAGV
181 VYY

HORDEUM VULGARE (BARLEY)

Extensin [*Hordeum vulgare*].

1 VEARPGSGYGGGHPPSPTPISPAKHEKPPKGHKPPHHHHHAKPPVGSQAPPTYSPPTAK
61 PTPPAPKPAPTYAPIKPPKPSPPAYHPTPKAPPTYKPTQPKPSPPAYKPAKVSPP
121 AYKPAKVSPPAYKPAKVSPPAYKPAKVSPPAYKPSPKVSPPAYKPAKVSPPAYKPA
181 PKVSPPAYKPAKVSPPAYKVPKPSPPAPKPTPPPYKPTTTPPAQKPTTTPPAYKPP
241 TPTPAHKPPTTTPPAHKPATPTPAHKPPTTTPPAHKPTTTPPAYKPTTTPPADKPTT
301 PTPLAHKPPTTTPPAYKAPTSPPPPPYHH

C-hordein [*Hordeum vulgare*].

1 MKTFLTFVLLAMVMSIVTTARQLNPSSQELQSPQQSYLQQPYQNPYLPQQPFPVQQPFH
61 TPQQYFPYLPEELSPQYQIPTPLQPPQFPQQPQQPLPRPQQPFPWQPQQPFPQPQQPIP
121 YQPQQPFPNQPPQIISQPPQQPFPQQPQQPFPQPQQPFPWQPQQPFPQPQQPFPQPQQP
181 FPWQPQQPFPQPQQPIAHQPQQPFSFSQQPQQPFPPLQPPQFPQQPQQPFPQQPQQIIFQ
241 QPQQSYPVQPQQPFPQPQVPQQRPQQASPLQPPQFPQQGSEQIIPQQPQQPFPPLQPHQP
301 YTQQTIVSMV

AVENIN STRUCTURES [OATS - *Avena sativa*)

Avenin

1 MKTFLIFALL AMAATMATAQ F**DP**SEQY**QPY** **PE**QQ**QPI**LQQ QM**LL**QQQQQ Q**MLL**QQ**QPLL**
61 QVLQQQL**NP**C RQFLVQQ**CSP** VAVV**P**FLRSQ ILQSSCQVM RQCC**RQLEQ** I**PE**QL**RCP**AM
121 HSVVQAIIMQ QQQFF**QP**QM**Q** QVTQ**GIF****QP****Q** MQQVTQ**GIF****Q** **PQ**LQ**QVT**QGI F**QP**QM**Q**QIE
181 GMRAFALQAL **PAM**CDVYV**PP** **HCP**VAT**AP**LG GF

Gamma-3 Avenin

TTTVQY**DP**SEQY**QPY****PE**QQ**QPI**FVQQ**QPP**F

ORYZA SATIVA (RICE)

Prolamin [*Oryza sativa* Indica Group]

1 MAAYTSKIFALFALIALSASATTAITTMQYF**PPT**LAMGTM**DPC**RQYMMQTLGMGSSTAMF
61 MS**QP**MALLQQ**CC**MLQ**GM****PQ****CH**CGT**SC**QMMQSMQ**QVIC**AGLGQQQMMK**MAM**QM**PY**MCN
121 MAPVNFQLSS**CGCC**

Prolamin [*Oryza sativa* Japonica Group]

1 MKIIFVFALLAIVACNASARFDALSQSYRQYQLQSHLQLQQQVL**SP**CSEFVRQQHSIVAT
61 **P**FW**QP**ATFQLINNQM**QCC**QQLRLVAQQSHYQAISVQAIVQQQLQ**QV**GVYFDQTQ
121 AQAQALLALNL **PS**i**CGI****YPN**YYIA**PR**S**IP**TVGVSGTEL

Glutelin [*Oryza sativa*]

1 MASSVFSRFSIYF**CV**LL**LCH**GSMAQLF**NPS**T**NP**WH**SPR**QGSFRE**CR**FDRLQAF**EP**LRKVR
61 SEAGVTEYFDEKNELF**CT**GT**FV**IRRV**IQ**PQGLLV**PR**YTN**IP**GVVYIIQGRGSMGLTF**PG**
121 **CP**ATYQQQFQQFSSQ**GS**Q**SQ**KFRDEHQI**HQ**FRQGDIVAL**PAG**VAHWFYNDGDRHIVAV
181 YVYDVNNANQLE**EP**R**Q**KEFLLAGNN**RA**QQQ**QV**YGSSIEQHSGQNIFSGFGVEMLSEALG
241 INAVAAKRLQ**SPN**DQRGEI**HV**K**NG**LQ**LLK**PTLTQQQEQAQAQDQYQQVQYSERQQTSSR
301 WNGLEEN**CT**IKVRVNI**ENPS**RADSY**NPR**AGRITSVNSQ**KFP**ILNLIQMSATRVNLYQNA
361 IL**SP**FWNVNAHSLVYMIQGRSRVQVVS**NF**GKT**VD**GV**L**RP**G**QLLI**PQ**HYAVLKKAEREG
421 CQYIAIKTNANTFVSHLAGKNSVFRAL**PVD**VVANAYRISREQARSLKNNRGEEHGAF**TPR**
481 FQQY**YP**GLSNESESETSE

P proline **P** where ginger enzymes digest protein

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