# Biochemical aspects of seeds from *Cannabis sativa* L. plants grown in a mountain environment.

Chiara Cattaneo[1,*], Annalisa Givonetti[1], Valeria Leoni[2,3], Nicoletta Guerrieri[4], Marcello Manfredi[5], Annamaria Giorgi[2,3], Maria Cavaletto[1]

[1]Università del Piemonte Orientale, Dipartimento di Scienze e Innovazione Tecnologica-DiSIT, Vercelli, 13100, Italy;

[2]Centre of Applied Studies for the Sustainable Management and Protection of Mountain Areas (CRC Ge.S.Di.Mont.), University of Milan, Via Morino 8, 25048 Edolo (BS), Italy;

[3]Department of Agricultural and Environmental Sciences - Production, Landscape, Agroenergy (DISAA), Via Celoria 2, 20133 Milan, Italy;

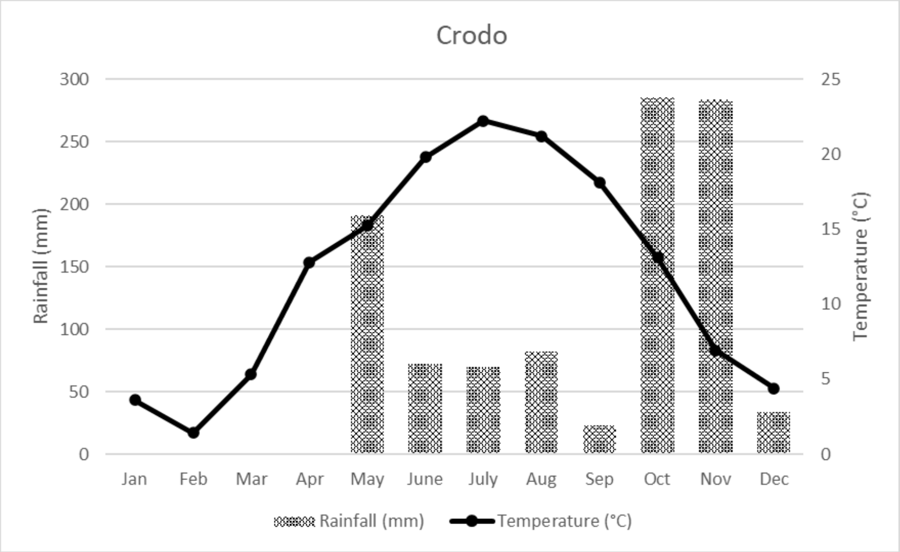
[4]Water Research Institute-National Research Council (IRSA-CNR), Verbania, Italy;

[5]Università del Piemonte Orientale, Centro di Ricerca Traslazionale sulle Malattie Autoimmuni e Allergiche– CAAD, Novara, 28100, Italy

*chiara.cattaneo@uniupo.it

**Fig S1.** Average air temperature, rainfall and relative humidity of the year 2018, Crodo and Viganella, Italy.

| Crodo | | | |
|---|---|---|---|
| | Avg T (°C) | Rainfall (mm) | Humidity (%) |
| Jan | 3,6 | - | 83 |
| Feb | 1,4 | - | 67 |
| Mar | 5,3 | - | 71 |
| Apr | 12,8 | - | 63 |
| May | 15,2 | 191,2 | 79 |
| June | 19,8 | 71,8 | 66 |
| July | 22,2 | 69,6 | 65 |
| Aug | 21,2 | 81,8 | 70 |
| Sep | 18,1 | 23,2 | 72 |
| Oct | 13,1 | 285,2 | 77 |
| Nov | 6,9 | 283,6 | 89 |
| Dec | 4,4 | 33,2 | 70 |



| Viganella (Alpe Cheggio) | | | |
|---|---|---|---|
| | Avg T (°C) | Rainfall (mm) | Humidity (%) |
| Jan | - | - | - |
| Feb | -4,5 | - | 15 |
| Mar | - | - | - |
| Apr | 6 | - | 23 |
| May | 9,4 | 306,6 | 32 |
| June | 14,2 | 97,8 | 11 |
| July | 17 | 94,2 | 26 |
| Aug | 16,5 | 155,6 | 25 |
| Sep | 13,5 | 60,8 | 11 |
| Oct | 8,8 | 350,6 | 26 |
| Nov | 2,6 | - | 33 |
| Dec | 1,5 | - | 12 |

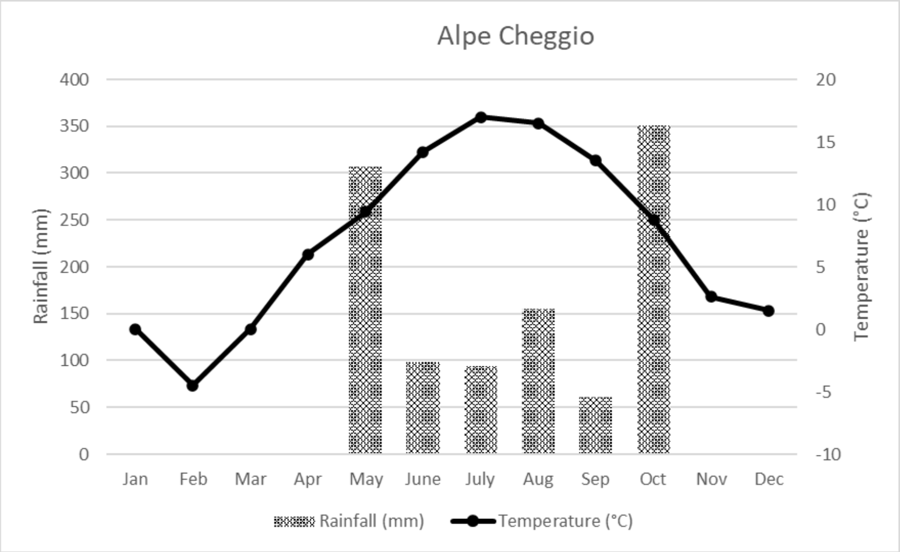


**Fig S2.** Box-plot representing the weight of Finola and Futura 75 seeds from different sources: certified (Cert), Crodo and Viganella.

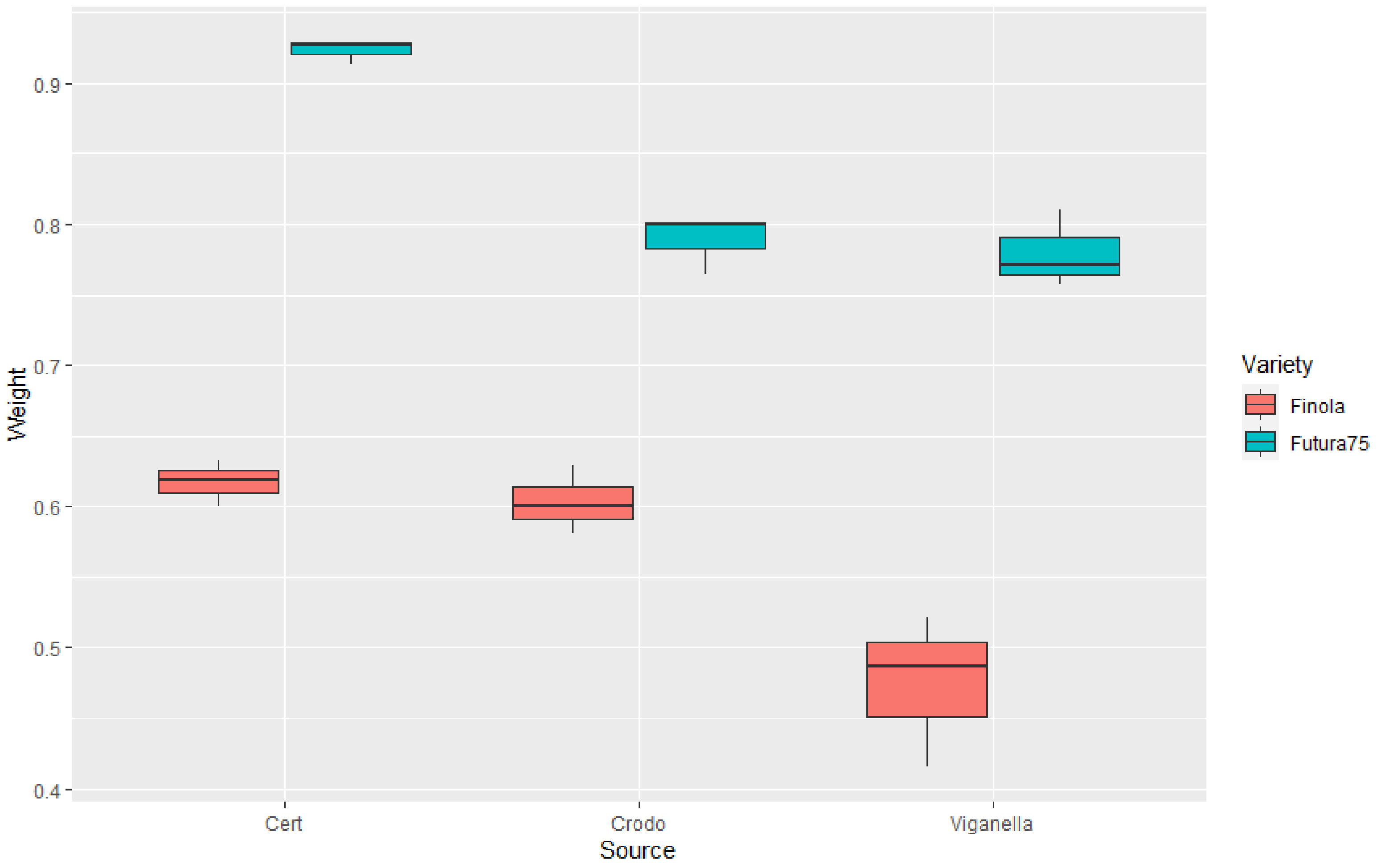
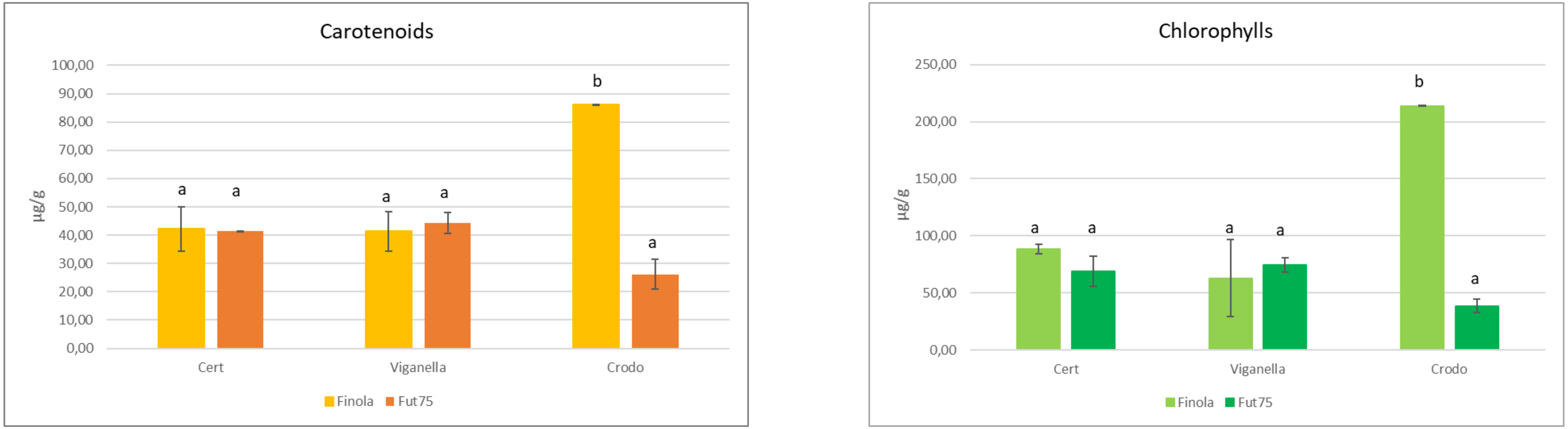


**Fig S3.** Total content and ratio of carotenoids and chlorophylls (µg/g) from Finola and Futura 75 certified and harvested seeds from Crodo and Viganella experimental fields. Significant different values (P<0.05, Tukey post-hoc test, Bonferroni adjustment) are indicated by different letters.



| Hemp variety | Source | Car/chl ratio |
|---|---|---|
| Futura 75 | Certified | 0,60 |
| Futura 75 | Viganella | 0,59 |
| Futura 75 | Crodo | 0,68 |
| Finola | Certified | 0,48 |
| Finola | Viganella | 0,66 |
| Finola | Crodo | 0,40 |

**Fig S4.** SDS-PAGE of the albumin fraction of seeds from Futura 75 (1) and Finola (2) cultivars of *C. sativa* from the experimental fields of Crodo and Viganella, and certified seeds.

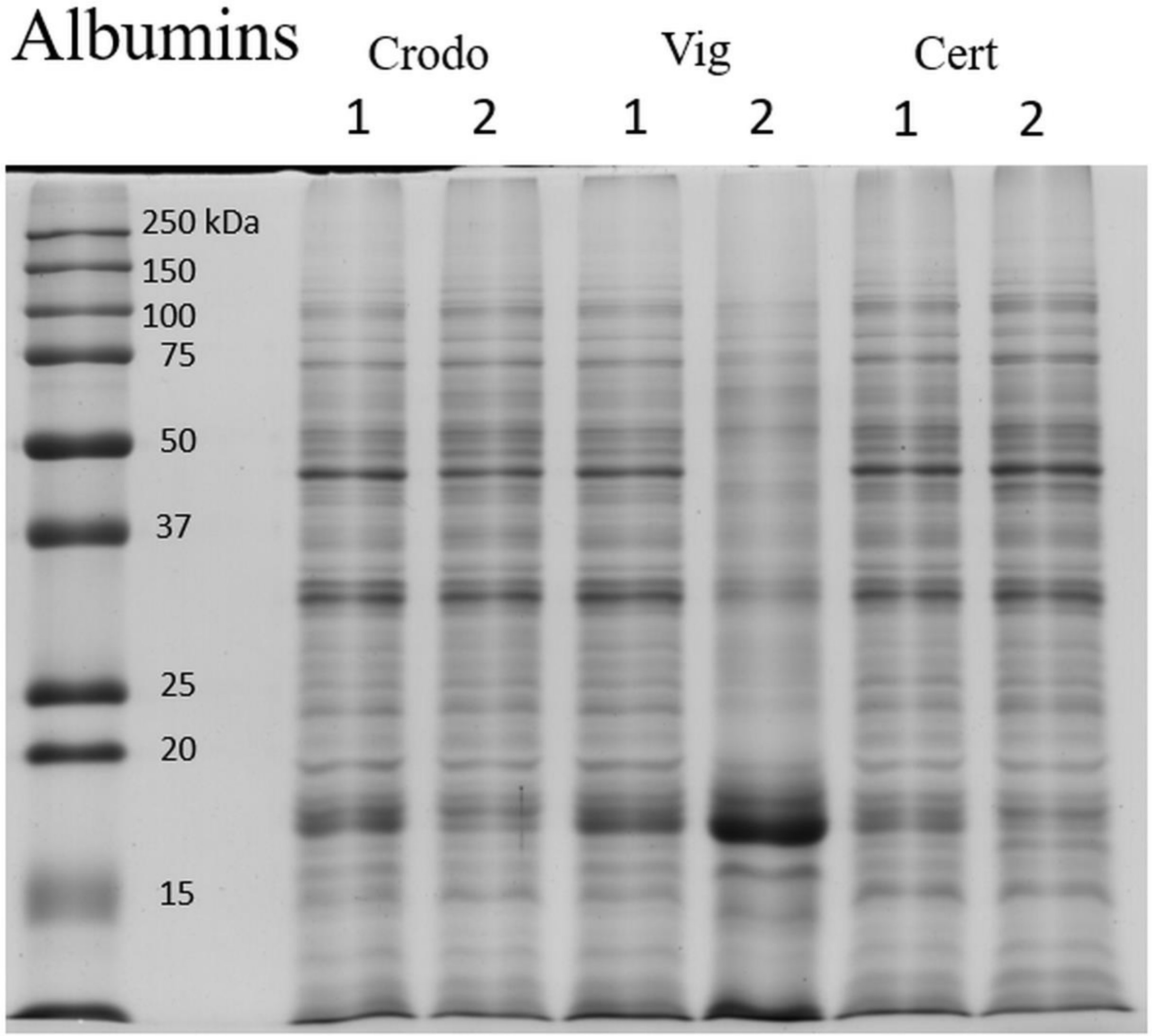


**Fig S5.** SDS-PAGE of the globulin fraction of seeds from Futura 75 (1) and Finola (2) cultivars of *C. sativa* from the experimental fields of Crodo and Viganella, and certified seeds.

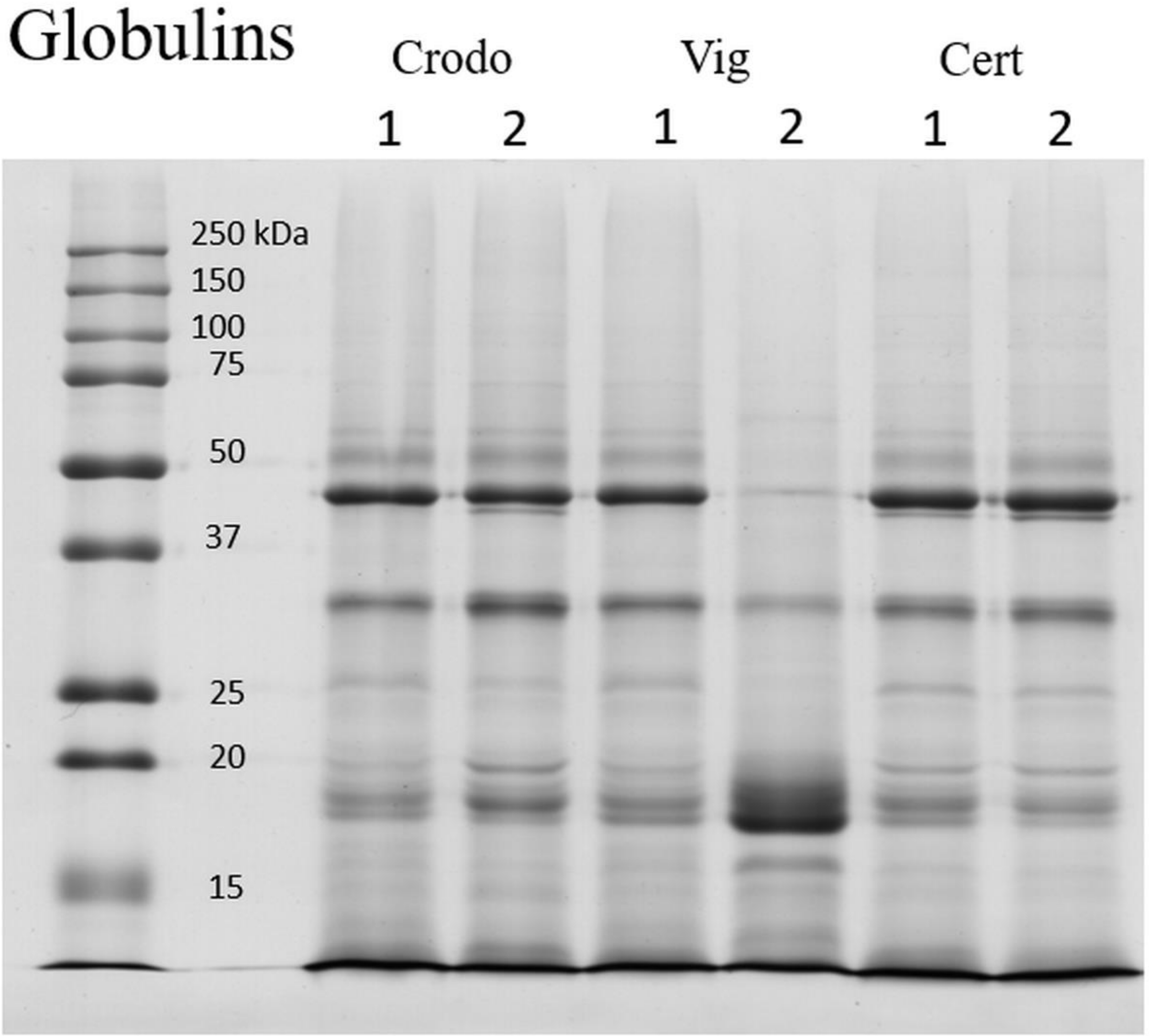


**Fig S6.** SDS-PAGE of the glutelin-like fraction of seeds from Futura 75 (1) and Finola (2) cultivars of *C. sativa* from the experimental fields of Crodo and Viganella, and certified seeds.

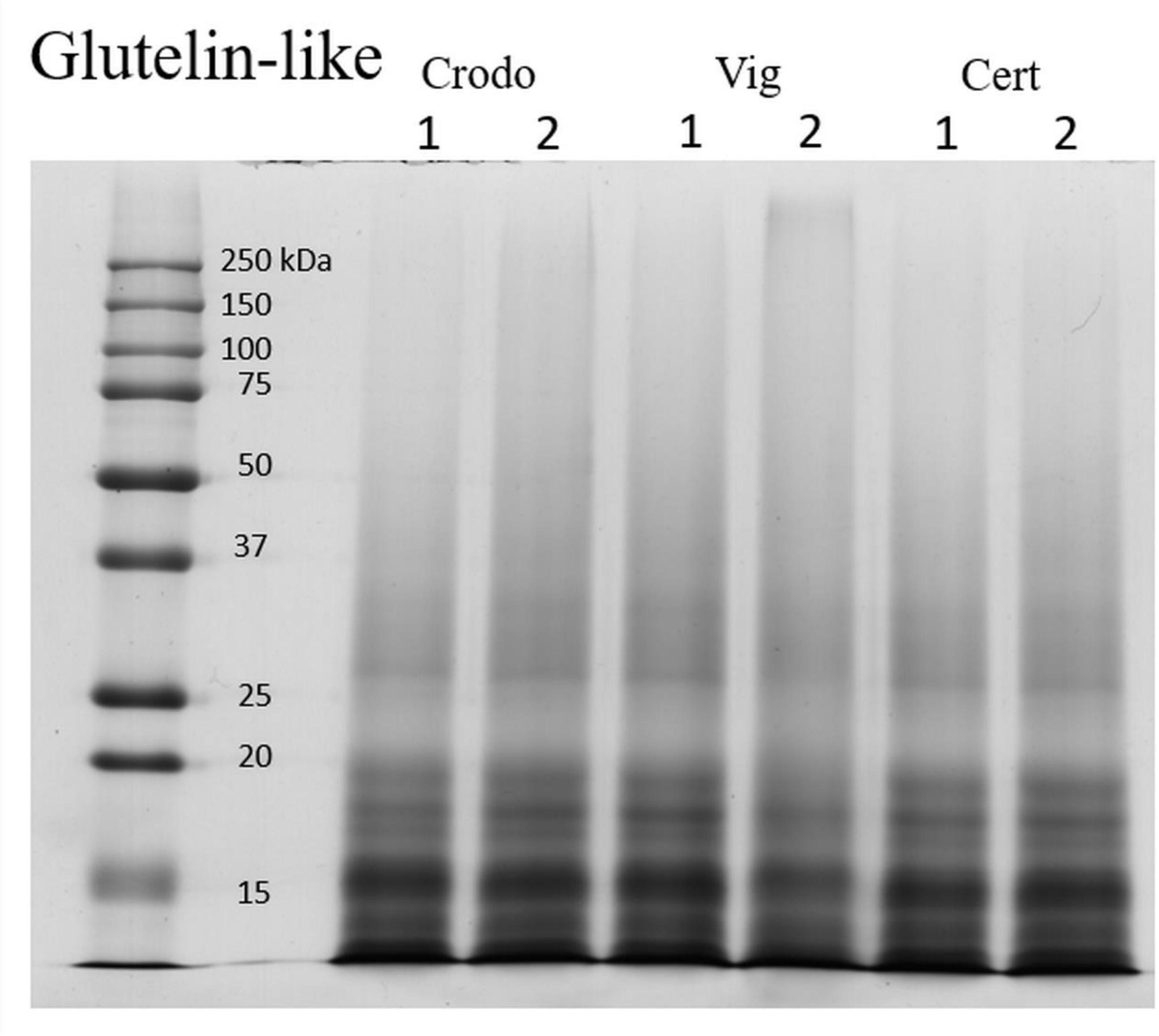


**Fig S7.** Representative 2D gel of total protein extracts from Finola seeds of Viganella. Spots showing variations of intensity after PDQuest image analysis are numbered.

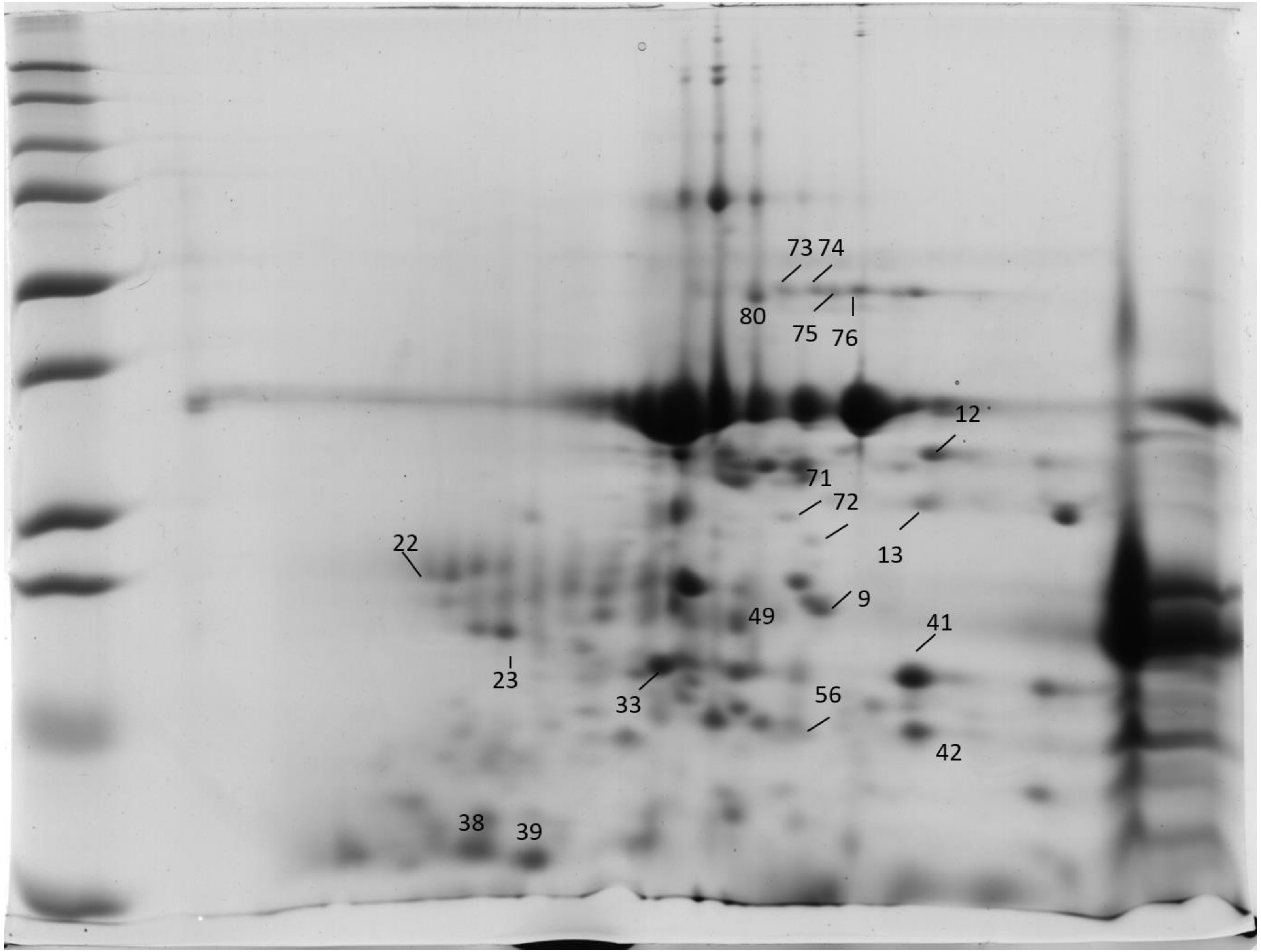


**Table S1.** MS/MS identifications of albumin protein extracts from hemp seeds of Futura75 and Finola analyzed by 2D-PAGE. The spot name (SP), accession code (AC), protein name and organism, number of significant matches (M) and sequences (Seq), peptide sequences, theoretical molecular mass (Mr) and database used for MS/MS search (N: NCBI, S: SwissProt) are indicated. Where available, results of blast analysis are indicated in the "Blast" column.

| SP | AC | Protein name | M | Seq | Peptide sequence | Mr | DB | Blast |
|---|---|---|---|---|---|---|---|---|
| **1** | OAP03364.1 | SRG3 (*Arabidopsis thaliana*) | 1 | 1 | R.NPALVNKIK.E + Deamidated (NQ) | 40984 | N | |
| **3** | XP_021757355.1 | Phosphoglycerate kinase 3, cytosolic (*Chenopodium quinoa*) | 1 | 1 | K.MANDSVGEEVEK.L | 42430 | N | |
| **3** | GER33867.1 | Phosphoglycerate kinase (*Striga asiatica*) | 1 | 1 | R.VDLNVPLDDSLKITDDTR.I | 42305 | N | |
| **3** | KAF4347106.1 | Hypothetical protein G4B88_025149 (*Cannabis sativa*) | 2 | 2 | K.LAELSGK.G<br>K.GVTTIIGGGDSVAAVEK.V | 92335 | N | |
| **3** | XP_030508778.1 | ADP-ribosylation factor 1 (*Cannabis sativa*) | 1 | 1 | R.DAVLLVFANK.Q | 20624 | N | |
| **4** | XP_030485298.1 | Hexokinase-2, chloroplastic (*Cannabis sativa*) | 1 | 1 | K.QLSIDSGILMK.W | 54139 | N | |
| **5** | XP_030507162.1 | 1-Cys peroxiredoxin (*Cannabis sativa*) | 1 | 1 | K.DSSGNQVPSR.A | 24231 | N | |
| **7** | LGUL_ORYSJ | Lactoylglutathione lyase (*Oryza sativa subsp. japonica*) | 1 | 1 | R.QPGPLPGLNTK | 32875 | S | |

|  |  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|
| **8** | CDP79027.1 | Edestin 2 (*Cannabis sativa*) | 6 | 3 | R.GEDLQIIAPSR.I<br>R.SEGASSDEQHQK.V<br>R.ESGEQTPNGNIFSGFDTR.I + Deamidated (NQ) | 56338 | N |  |
| **8** | XP_030506286.1 | NADPH-dependent aldehyde reductase 1, chloroplastic-like (*Cannabis sativa*) | 1 | 1 | K.IALVSGGDSGIGR.A | 32167 | N |  |
| **11** | RVX02887.1 | putative ribonuclease H protein (*Vitis vinifera*) | 1 | 1 | R.ALWELVLGL.- | 37231 | N |  |
| **13** | XP_030504301.1<br>XP_030506109.1 | 18.5 kDa class I heat shock protein (*Cannabis sativa*) | 4 | 2 | K.LSEENSAFVNAR.V<br>K.AAMENGVLTVTVPK + Oxidation (M) | 18013<br>17999 | N |  |
| **14** | XP_030503293.1 | 18.5 kDa class I heat shock protein-like (*Cannabis sativa*) | 19 | 6 | R.SNILDPFSMDVWDPFKDFPLSVPDISK.E + Oxidation (M)<br>K.DFPLSVPDISK.E<br>K.ETSAMVNAR.V + Oxidation (M)<br>K.ADVPGLK.K<br>R.VLQISGER.N<br>K.AAMENGVLTVTVPK.E + Deamidated (NQ), Oxidation M | 17486 | N |  |
| **15** | XP_030485488.1<br>XP_030488139.1 | 18.1 kDa class I heat shock protein-like (*Cannabis sativa*) | 1 | 1 | K.ASMENGVLTVVVPK.E + Deamidated (NQ), Oxidation M | 17886/<br>17852 | N |  |
| **16** | HSP11_MEDSA | 18.1 kDa class I heat shock protein (Fragment) (*Medicago sativa*) | 2 | 2 | R.VLQISGER.N<br>K.AAMENGVLTVTVPK.E + Deamidated (NQ), Oxidation M | 17486 | S | XP_030503293.1 18.5 kDa class I heat shock protein-like (*Cannabis sativa*) |

|  |  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|
| **16** | TKS00882.1 | NADH dehydrogenase (*Populus alba*) | 1 | 1 | R.VEAAMVNAR.I + Oxidation (M) | 81298 | N |  |
| **17** | XP_030499617.1 | Glycine-rich RNA-binding protein-like (*Cannabis sativa*) | 1 | 1 | R.DAIEGMNGQDLDGR.N + Deamidated (NQ); Oxidation (M) | 17128 | N |  |
| **19** | CDP79023.1 | Edestin 1 (*Cannabis sativa*) | 1 | 1 | R.GQGQGQSQGSQPDR.H | 58810 | N |  |
| **20** | CXXS1_ARATH | Thioredoxin-like protein CXXS1 *Arabidopsis thaliana* | 1 | 1 | K.LVGANPDEIK.K + Deamidated (NQ) | 13440 | S | KAF4398011.1 hypothetical protein G4B88_019732 (*Cannabis sativa*),<br>XP_030491271.1 thioredoxin-like protein CXXS1 (*Cannabis sativa*) |
| **23** | CXXS1_ARATH | Thioredoxin-like protein CXXS1 *Arabidopsis thaliana* | 2 | 1 | K.LVGANPDEIK.K + Deamidated (NQ) | 13440 | S | KAF4398011.1 hypothetical protein G4B88_019732 (*Cannabis sativa*),<br>XP_030491271.1 thioredoxin-like protein CXXS1 (*Cannabis sativa*) |
| **25** | XP_030506286.1 | NADPH-dependent aldehyde reductase 1, chloroplastic-like (*Cannabis sativa*) | 2 | 1 | K.IALVSGGDSGIGR.A | 32167 | N |  |
| **27** | CAB00000.1 | ribulose-1,5-bisphosphate carboxylase/oxygenase large subunit, partial (chloroplast) (*Caryocar glabrum*) | 1 | 1 | K.DTDILAAFR.V | 50042 | N |  |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **27** | CDP79023.1 | edestin 1 (*Cannabis sativa*) | 1 | 1 | R.GQGQGQSQGSQPDRHQK.L + 2 Deamidated (NQ) | 58810 | N | |
| **28** | CXXS1_ARATH | Thioredoxin-like protein CXXS1 *Arabidopsis thaliana* | 2 | 1 | K.LVGANPDEIK.K + Deamidated (NQ) | 13440 | S | KAF4398011.1 hypothetical protein G4B88_019732 (*Cannabis sativa*),<br>XP_030491271.1 thioredoxin-like protein CXXS1 (*Cannabis sativa*) |
| **29** | ABX09991.1 | actin 1, partial (*Ziziphus jujuba*) | 3 | 1 | K.LCYVALDFEQEMATAASSSSLEK.S<br>K.LCYVALDFEQEMATAASSSSLEK.S + Deamidated (NQ)K.LCYVALDFEQEMATAASSSSLEK.S + Oxidation (M) | 17833 | N | |
| **29** | CDP79023.1 | edestin 1 (*Cannabis sativa*) | 1 | 1 | R.GQGQGQSQGSQPDR.H | 58810 | N | |
| **29** | PNY00005.1 | Tubulin alpha-3 chain-like protein (*Trifolium pratense*) | 1 | 1 | R.FDGAINVDITEFQTNLVPYPR.I | 50123 | N | |
| **29** | AGJ50594.1 | beta-tubulin (*Pericallis cruenta*) | 2 | 2 | K.NSSYFVEWIPNNVK.S + Deamidated (NQ)<br>K.GHYTEGAELVDSVLDVVR.K | 50697 | N | |
| **29** | XP_023875501.1 | GTP-binding protein rhoA (*Quercus suber*) | 1 | 1 | K.TCLLIVFSK.G | 21978 | N | |
| **32** | XP_030478962.1 | Heat shock 70 kDa protein-like (*Cannabis sativa*) | 2 | 2 | R.FSDPSVQSDMK.L + Oxidation (M)<br>R.TTPSYVAFTDTER.L | 72426 | N | |

|  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|
| **32** | XP_030501851.1<br>XP_030492979.1 | Luminal-binding protein 5 isoform X1 (*Cannabis sativa*) and mediator of RNA polymerase II transcription subunit (*Cannabis sativa*) | 1 | 1 | K.DAGTIAGLNVAR.I | 73647<br>73541 | N |
| **33** | RUBA_RICCO | RuBisCO large subunit-binding protein subunit alpha (Fragment) (*Ricinus communis)* | 2 | 2 | R.VLVTDQK.I<br>K.TNDSAGDGTTTASVLAR.E | 52461 | S |
| **33** | PDI11_ARATH | Protein disulfide isomerase-like 1-1 (*Arabidopsis thaliana*) | 1 | 1 | K.QSGPASAEIK.S | 55852 | S |
| **38** | XP_030508280.1<br>XP_030508281.1 | vicilin C72-like (*Cannabis sativa*) | 1 | 1 | R.ADVIVVPAGSTVYMTNQDNK.E + Oxidation (M) | 99860<br>84760 | N |
| **47** | HSP11_DAUCA | 17.8 kDa class I heat shock protein (*Daucus carota*) | 1 | 1 | R.VLQISGER.N | 17771 | S |
| **53** | XP_030507162.1 | 1-Cys peroxiredoxin (*Cannabis sativa*) | 1 | 1 | K.DSSGNQVPSR.A | 24231 | N |
| **53** | XP_030486208.1 | glutathione S-transferase DHAR2-like (*Cannabis sativa*) | 1 | 1 | K.VSAVDLSLAPK.L | 23764 | N |
| **54** | XP_030482081.1 | 11 kDa late embryogenesis abundant protein (*Cannabis sativa)* | 6 | 2 | K.ESAANVAASAK.S<br>R.TTTQDPSGGAPGYGTGGY.- | 15573 | N |
| **54** | SNQ45158.1 | Edestin 3 (*Cannabis sativa*) | 6 | 4 | R.AKVNQLAGK.V<br>R.ADVFSPQAGR.L<br>R.AMPEDVIANSYQISR.E<br>R.QGQALTVPQNFAVVK.M | 56672 | N |
| **54** | SNQ45160.1 | Edestin 3 (*Cannabis sativa*) | 7 | 5 | R.ENMGDPAR.A + Oxidation (M)<br>R.AkVNQLAGK.V<br>R.ADVFSPQAGR.L | 56473 | N |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | R.AMPEDVIANSYQISR.E<br>R.QGQALTVPQNFAIVK.M | | |
| **54** | CDP79023.1 | Edestin 1 (*Cannabis sativa*) | 1 | 1 | K.TNDNAWVSPLAGR.T | 58810 | N |
| **54** | CDP79027.1 | Edestin 2 (*Cannabis sativa*) | 3 | 1 | R.LQVVDDNGR.N + Deamidated (NQ) | 56338 | N |
| **54** | CP19D_ARATH | Peptidyl-prolyl cis-trans isomerase CYP19-4 (*Arabidopsis thaliana*) | 2 | 1 | K.VVIADSGELPL.- | 21577 | S |
| **55** | SNQ45160.1 | Edestin 3 (*Cannabis sativa*) | 32 | 4 | R.ADVFSPQAGR.L<br>R.QGQALTVPQNFAIVK.M<br>K.MAENEGFEWISFK.T + Oxidation (M)<br>R.AMPEDVIANSYQISR.E | 56473 | N |
| **55** | SNQ45158.1 | Edestin 3 (*Cannabis sativa*) | 30 | 3 | R.ADVFSPQAGR.L<br>R.AMPEDVIANSYQISR.E<br>R.QGQALTVPQNFAVVK.M | 56080 | N |
| **55** | CDP79023.1 | Edestin 1 (*Cannabis sativa*) | 23 | 6 | R.ENIGDPSR.A<br>R.ENIGDPSRADVFTPQAGR.I<br>R.ISTVNSYNLPILR.F<br>R.VQVVNHMGQK.C + Oxidation (M)<br>K.QASSDGFEWVSFK.T<br>K.TNDNAWVSPLAGR.T | 58810 | N |
| **55** | CDP79028.1 | Edestin 2 (*Cannabis sativa*) | 26 | 7 | R.LNTLNNYNLPILR.F<br>R.LQVVDDNGR.N<br>R.LQVVDDNGRNVFDGELR.E + Deamidated (NQ)<br>K.ASAQGFEWIAVK.T<br>K.TNDNAMRNPLAGK.V + Oxidation (M)<br>R.AMPDDVLANAFQISR.E<br>R.DEISVFSPSSQQTR.Y | 56277 | N |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **55** | XP_030494449.1 | 60S ribosomal protein L12-3-like (*Cannabis sativa*) | 3 | 3 | R.VTGGEVGAASSLAPK.I<br>K.VSVVPSAAALVIK.A<br>K.DLQEEISDGDVEIPQD.- | 17893 | N |
| **56** | SNQ45153.2<br>XP_030504501.1 | 7S vicilin-like protein (*Cannabis sativa*) | 1 | 1 | R.IGFITMEPK.T + Oxidation (M) | 56026 | N |
| **56** | XP_030487452.1 | Triosephosphate isomerase, chloroplastic (*Cannabis sativa*) | 1 | 1 | K.NNVSAEVASK.I + Deamidated (NQ) | 34234 | N |
| **57** | SNQ45153.2<br>XP_030504501.1 | 7S vicilin-like protein (*Cannabis sativa*) | 2 | 1 | R.IGFITMEPK.T + Oxidation (M) | 56026 | N |
| **58** | CDP79023.1,<br>CDP79024.1,<br>CDP79026.1 | Edestin 1 (*Cannabis sativa*) | 1 | 1 | R.GQGQGQSQGSQPDR.H | 58810,<br>58829,<br>58740 | N |
| **59** | XP_030479619.1 | Late embryogenesis abundant protein, group 3-like (*Cannabis sativa*) | 3 | 3 | K.DAITGDGK.-<br>K.ETAQDLSDSAK.G<br>K.QDAGFNTDDITK.R | 20590 | N |
| **65** | OVA13829.1 | Ubiquitin-associated domain/translation elongation factor EF-Ts (*Macleaya cordata*) | 1 | 1 | K.DIELVMTQAGVPR.S + Oxidation (M) | 22359 | N |
| **A** | CDP79023.1,<br>CDP79024.1,<br>CDP79026.1 | Edestin 1 (*Cannabis sativa*) | 1 | 1 | R.GQGQGQSQGSQPDR.H | 58810,<br>58829,<br>58740 | N |
| **B** | CDP79023.1,<br>CDP79024.1,<br>CDP79026.1 | Edestin 1 (*Cannabis sativa*) | 2 | 1 | R.GQGQGQSQGSQPDR.H | 58810,<br>58829,<br>58740 | N |
| **C** | CDP79023.1,<br>CDP79024.1,<br>CDP79026.1 | Edestin 1 (*Cannabis sativa*) | 6 | 2 | R.GQGQGQSQGSQPDR.H<br>R.GQGQGQSQGSQPDRHQK.L | 58810,<br>58829,<br>58740 | N |
| **C** | OAP03364.1 | | 2 | 1 | R.NPALVNKlK.E + Deamidated (NQ) | 40984 | N |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **D** | CDP79023.1, CDP79024.1, CDP79026.1 | Edestin 1 (*Cannabis sativa*) | 6 | 2 | R.GQGQGQSQGSQPDR.H<br>R.GQGQGQSQGSQPDRHQK.L | 58810, 58829, 58740 | N |
| **E** | CDP79023.1, CDP79024.1, CDP79026.1 | Edestin 1 (*Cannabis sativa*) | 9 | 5 | R.QQNQCQIDR.I + Deamidated (NQ)<br>R.GQGQGQSQGSQPDR.H<br>R.GQGQGQSQGSQPDRHQK.L<br>R.FYLAGNPEDEFEQLR.R<br>R.YTIQQNGLHLPSYTNTPQLVYIVK.G + Deamidated (NQ) | 58810, 58829, 58740 | N |
| **F** | SNQ45158.1 | Edestin 3 (*Cannabis sativa*) | 6 | 2 | R.GVLGTLFPGCAETFEEAQVSVGGGR.S<br>R.LTIQPNGLHLPSYTNGPQLIHVIR.G + Deamidated (NQ) | 56672 | N |
| **F** | CDP79023.1, CDP79024.1, CDP79026.1 | Edestin 1 (*Cannabis sativa*) | 5 | 4 | R.GQGQGQSQGSQPDR.H<br>R.FYLAGNPEDEFEQLR.R<br>R.FYLAGNPEDEFEQLRR.E<br>R.YTIQQNGLHLPSYTNTPQLVYIVK.G + Deamidated (NQ) | 58810, 58829, 58740 | N |
| **F** | VAH03463.1<br>HSP7F_ARATH | Unnamed protein product (*Triticum turgidum* subsp. Durum)<br>Heat shock 70 kDa protein 6, chloroplastic (*Arabidopsis thaliana*) | 1 | 1 | K.VTKAVITVPAYFNDSQR.T + Deamidated (NQ) | 27644,<br>76575 | N<br>S |
| **F** | XP_004290029.1 | PREDICTED: chaperonin CPN60-2, mitochondrial-like (*Fragaria vesca* subsp. Vesca) | 1 | 1 | R.TALVDAASVSSLMTTTEAVVVSLPEK.E | 61759 | N |
| **G** | CDP79023.1, CDP79024.1, CDP79026.1 | Edestin 1 (*Cannabis sativa*) | 1 | 1 | R.GQGQGQSQGSQPDR.H | 58810, 58829, 58740 | N |
| **H** | SNQ45158.1 | Edestin 3 (*Cannabis sativa*) | 1 | 1 | R.LTIQPNGLHLPSYTNGPQLIHVIR.G + 3 Deamidated (NQ) | 56672 | N |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **I** | KZN00901.1 | Hypothetical protein DCAR_009655 (*Daucus carota* subsp. Sativus) | 1 | 1 | R.VPTANVSVVDLTCR.L | 36278 | N |
| **L** | CDP79023.1,<br>CDP79024.1,<br>CDP79026.1 | Edestin 1 (*Cannabis sativa*) | 2 | 1 | R.GQGQGQSQGSQPDR.H | 58810,<br>58829,<br>58740 | N |
| **M** | CDP79023.1,<br>CDP79024.1,<br>CDP79026.1 | Edestin 1 (*Cannabis sativa*) | 3 | 2 | R.GQGQGQSQGSQPDRHQK.L<br>R.GQGQGQSQGSQPDR.H | 58810,<br>58829,<br>58740 | N |
| **M** | EMS59070.1 | Histone H4 (*Triticum urartu*) | 2 | 2 | R.ISGLIYQETR.G + Deamidated (NQ)<br>K.TVTSMDVVYALK.R + Oxidation (M) | 11418 | N |
| **N** | ARF_MAIZE | ADP-ribosylation factor 1 (*Cannabis sativa*) | 1 | 1 | R.DAVLLVFANK.Q | 20705 | S |
| **N** | CDP79023.1,<br>CDP79024.1,<br>CDP79026.1 | Edestin 1 (*Cannabis sativa*) | 2 | 1 | R.GQGQGQSQGSQPDR.H | 58810,<br>58829,<br>58740 | N |
| **N** | KZN00901.1 | Hypothetical protein DCAR_009655 (*Daucus carota* subsp. Sativus) | 1 | 1 | R.VPTANVSVVDLTCR.L | 36278 | N |
| **N** | ABX09991.1 | Actin 1, partial (*Ziziphus jujuba*) | 2 | 1 | K.LCYVALDFEQEMATAASSSSLEK.S | 17833 | N |
| **N** | XP_022159030.1 | Uncharacterized protein LOC111025474 (*Momordica charantia*) | 1 | 1 | K.RAAEAKSVEEAEPR.G | 31380 | N |
| **N** | XP_023875501.1 | GTP-binding protein rhoA (*Quercus suber*) | 1 | 1 | K.TCLLIVFSK.G | 21978 | N |
| **R** | CDP79027.1 | Edestin 2 (*Cannabis sativa*) | 2 | 1 | R.GLLLPSFLNAPMMFYVIQGR.G + 2 Oxidation (M) | 56338 | N |

**Table S2.** MS/MS identifications of total protein extracts from hemp seeds of Futura75 and Finola analyzed by SDS-PAGE. Band identificative name (ID), accession code (AC), protein name and organism, number of significant matches (M) and sequences (Seq), peptide sequences and theoretical molecular mass (Mr) are indicated.

| ID | AC | Description name | M | Seq. | Peptide sequence | Mr |
|---|---|---|---|---|---|---|
| **A1** | CDP79023.1 | edestin 1<br>(*Cannabis sativa*) | 3 | 3 | K.TNDNAWVSPLAGR.T<br>R.EETVLLTSSTSSR.R<br>R.GQGQGQSQGSQPDR.H | 58810 |
| **A1** | XP_030508280.1 | vicilin C72-like<br>(*Cannabis sativa*) | 1 | 1 | R.ADVIVVPAGSTVYMTNQDNK.E<br>+ Oxidation (M) | 99860 |
| **A2** | CDP79023.1 | edestin 1<br>(*Cannabis sativa*) | 2 | 2 | R.GQGQGQSQGSQPDR.H + Deamidated (NQ)<br>R.YLEEAFNVDSETVK.R + Deamidated (NQ) | 58810 |
| **A3** | CDP79023.1 | edestin 1<br>(*Cannabis sativa*) | 1 | 1 | R.GQGQGQSQGSQPDR.H | 58810 |
| **A4** | CDP79023.1 | edestin 1<br>(*Cannabis sativ*a) | 1 | 1 | R.GQGQGQSQGSQPDR.H | 58810 |
| **A5** | CDP79023.1 | edestin 1<br>(*Cannabis sativa*) | 1 | 1 | R.GQGQGQSQGSQPDR.H | 58810 |
| **A6** | CDP79023.1 | edestin 1<br>(*Cannabis sativa*) | 19 | 11 | R.LQGQNDDR + Deamidated (NQ) ;<br>K.GTLDLVSPLR.S;<br>R.QQNQCQIDR.I ;<br>K.TNDNAWVSPLAGR.T ;<br>R.EETVLLTSSTSSR.R; | 58810 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | R.GQGQGQSQGSQPDR.H ;<br>R.LQGQNDDRNSIIR.V + Deamidated (NQ) ;<br>R.YLEEAFNVDSETVK.R;<br>R.FYLAGNPEDEFEQLR.R;<br>R.GILGVTFPGCPETFEESQR.G | |
| **A6** | XP_030478962.1 | Heat shock 70 kDa protein-like (*Cannabis sativa*) | 1 | 1 | R.TTPSYVAFTDTER.L<br>K.DAGAISGLNVLR.I | 72426 |
| **A6** | CDP79027.1 | Edestin 2 (*Cannabis sativa*) | 1 | 1 | R.DEISVFSPSSQQTR.Y | 56338 |
| **A7** | XP_030508280.1 | Vicilin C72-like (*Cannabis sativa*) | 48 | 10 | R.TVGFGVNAR.N ;<br>K.LSYFVSQQQQEEGR.G + Deamidated (NQ) ;<br>K.FYEVTPEQNK.Q ;<br>K.TTVLVMVVEGTGR.M ;<br>K.LSYFVSQQQQEEGR.G ;<br>R.GHESSGPVISLQNQSPR.Y ;<br>R.ADVIVVPAGSTVYMTNQDNK.E ;<br>K.EAQELAFNMQGSEVEQIFNQPK.L ;<br>R.VTAQLSPGDVFIIPAGHPVAVVANNNQK.L ;<br>R.LAVLEAQPSTFVAPHHCDADSVLVVTK.G | 99860 |
| **A7** | XP_030493178.1 | Sucrose-binding protein-like (*Cannabis sativa*) | 15 | 6 | K.ELAFSVPAR.E ;<br>R.SSGPFNLFR.D ;<br>K.LINPVSLPGR.F ;<br>K.SQNEEYFFPGPR.S ;<br>R.FEPFYGAGGENPESFYK.A ;<br>R.ETFNLVEGDILNIPAGTPVYIVNR.D | 55771 |
| **A7** | CDP79023.1 | Edestin 1 (*Cannabis sativa*) | 7 | 5 | K.TNDNAWVSPLAGR.T ;<br>R.GQGQGQSQGSQPDR.H ;<br>K.QASSDGFEWVSFK.T ; | 58810 |

|  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|
|  |  |  |  |  | R. YLEEAFNVDSETVK.R + 2 Deamidated (NQ) ;<br>R.GILGVTFPGCPETFEESQR.G |  |
| **A7** | AAB01374.1 | Beta-conglycinin storage protein (*Glycine max*) | 2 | 2 | R.LQESVIVEISK ;<br>R.FESFFLSSTQAQQSYLQGFSK.N | 74565 |
| **A8** | CDP79028.1 | Edestin 2 (*Cannabis sativa*) | 66 | 15 | R.QNIDRPSQADIFNPR.G ; R.GEDLQIIAPSR.I ;<br>R.WQSQCQFQR.L ; R.SEGASSDEQHQK.V ;<br>R.VRGEDLQIIAPSR.I ; R.LNTLNNYNLPILR.F ;<br>R.LNTLNNYNLPILR.F + Deamidated (NQ) ;<br>R.DEISVFSPSSQQTR.Y ;<br>R.AMPDDVLANAFQISR.E + Oxidation (M) ;<br>R.ILAESFNVDTELAHK.L ;<br>R.GIHGAVIPGCPETFER.G ;<br>R.ESGEQTPNGNIFSGFDTR.I ;<br>R.GLLLPSFLNAPMMFYVIQGR.G + 2 Oxidation (M) ;<br>R.VECEAGVSEYWDIQNTEDDELHCAGVETAR.H | 56277 |
| **A8** | CDP79023.1 | Edestin 1 (*Cannabis sativa*) | 20 | 11 | R.QQNQCQIDR.I ;<br>R.FYLAGNPEDEFEQLR.R ;<br>K.TNDNAWVSPLAGR.T ;<br>R.EETVLLTSSTSSR.R ;<br>R.GQGQGQSQGSQPDR.H ;<br>K.QASSDGFEWVSFK.T ;<br>R.ISTVNSYNLPILR.F ;<br>R.YLEEAFNVDSETVK.R ;<br>R.FYLAGNPEDEFEQLR.R ;<br>R.GILGVTFPGCPETFEESQR.G | 58810 |
| **A8** | SNQ45160.1 | Edestin 3 (*Cannabis sativa*) | 13 | 7 | K.QQEGLPNNVFR.G ;<br>R.GFSVNLIQEAFNVDSETAR.K ;<br>R.TAVYGDQNECQLNR.L ;<br>R.AMPEDVIANSYQISR.E + Oxidation (M) ; | 56473 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | R.IEEEKQQEGLPNNVFR.G ;<br>R.GVLGTLFPGCAETFEEAQVSVGGGR.S | |
| **A8** | XP_004232705.1 | Lactoylglutathione lyase GLX1 (*Solanum lycopersicum*) | 3 | 3 | K.ITSFLDPDGWK.T ;<br>K.DPDGYLFEIIQR.E ;<br>K.GNAYAQIAIGTDDVYK.S | 32972 |
| **A8** | XP_030508280.1 | Vicilin C72-like (*Cannabis sativa*) | 1 | 1 | R.ADVIVVPAGSTVYMTNQDNK.E + Oxidation (M) | 99860 |
| **A8** | XP_030493178.1 | Sucrose-binding protein-like (*Cannabis sativa*) | 1 | 1 | R.ETFNLVEGDILNIPAGTPVYIVNR.D | 55771 |
| **A9** | SNQ45160.1 | Edestin 3 (*Cannabis sativa*) | 168 | 13 | K.IQSQDDFR.G ;<br>R.KIQSQDDFR.G ;<br>K.QQEGLPNNVFR.G ;<br>R.VECEGGMIESWNPNHEQFQCAGVALLR.L + Oxidation (M) ;<br>R.QGQALTVPQNFAIVK.M ;<br>R.TAVYGDQNECQLNR.L ;;<br>R.AMPEDVIANSYQISR.E + Oxidation (M) ;<br>R.FYIAGNPHEDFPQSR.R ;<br>R.IEEEKQQEGLPNNVFR.G ;<br>R.GFSVNLIQEAFNVDSETAR.K ;<br>R.GVLGTLFPGCAETFEEAQVSVGGGR.S ;<br>R.LTIQPNGLHLPSYTNGPQLIHVIR.G + 2 Deamidated (NQ) ;<br>K.EGDIIAIPAGMAYWCNNDGDQPLVTVNLIDVSNHNNQLDLTPR.R | 56473 |
| **A9** | CDP79023.1 | Edestin 1 (*Cannabis sativa*) | 164 | 20 | R.GQGQGQSQGSQPDR.H ;<br>K.GTLDLVSPLR.S ;<br>R.QQNQCQIDR.I ;<br>R.VKGTLDLVSPLR.S ;<br>K.TNDNAWVSPLAGR.T ;<br>K.QASSDGFEWVSFK.T ; | 58810 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | R.ISTVNSYNLPILR.F ;<br>R.LQGQNDDRNSIIR.V ;<br>R.ALPEAVLANAFQISR.D ;<br>R.YLEEAFNVDSETVKR.L ;<br>R.FYLAGNPEDEFEQLR.R ;<br>R.YTIQQNGLHLPSYTNTPQLVYIVK.G ;<br>R.GILGVTFPGCPETFEESQR.G ;<br>R.EGDIVAIPAGVAYWSYNNGDQQLVFVSLLDTSNVNNQLDDNPR.R ;<br>R.VEAEAGLIESWNPNHNQFQCAGVAVVR.Y ;<br>R.GILGVTFPGCPETFEESQRGQGQGQSQGSQPDR.H + Deamidated (NQ) | |
| **A9** | CDP79028.1 | Edestin 2 (*Cannabis sativa*) | 107 | 15 | R.FLQLTAER.G;<br>R.GEDLQIIAPSR.I;<br>R.WQSQCQFQR.L;<br>R.SEGASSDEQHQK.V;<br>R.ESGEQTPNGNIFSGFDTR.I + 2 Deamidated (NQ);<br>R.VRGEDLQIIAPSR.I;<br>R.LNTLNNYNLPILR.F;<br>R.AMPDDVLANAFQISR.E + Oxidation (M);<br>R.ILAESFNVDTELAHK.L;<br>R.GIHGAVIPGCPETFER.G;<br>R.ESGEQTPNGNIFSGFDTR.I;<br>R.GLLLPSFLNAPMMFYVIQGR.G + 2 Oxidation (M);<br>R.VECEAGVSEYWDIQNTEDDELHCAGVETAR.H;<br>K.EGDMVAMPAGVADWVYNNGDSPLVLIAFVDVGNQANQLDQFSR.R + Deamidated (NQ); 2 Oxidation (M) | 56277 |
| **A9** | XP_030506286.1 | NADPH-dependent aldehyde reductase 1, chloroplastic-like (*Cannabis sativa*) | 8 | 3 | K.IALVSGGDSGIGR.A;<br>R.VNGVAPGPIWTPLIPSSFSEDHTAK.F + Deamidated (NQ);<br>R.IDILINNAAEQYVTSSIEEIDEAR.L | 32167 |

|  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|
| **A9** | XP_030477762.1 | Aspartic proteinase A1-like (*Cannabis sativa*) | 2 | 2 | K.NGKPAAIQYGTGAIAGFFSEDNVK.V + Deamidated (NQ);<br>K.AIVAQYGETIIESLTK.D | 56422 |
| **A9** | EEF43857.1 | Lactoylglutathione lyase, putative (*Ricinus communis*) | 5 | 3 | R.QPGPIPGLNTK ;<br>K.ITSFLDPDGWK.T;<br>K.DPDGYIFEIIQR | 31641 |
| **A9** | XP_030495935.1 | LOW QUALITY PROTEIN: 3-oxoacyl-(acyl-carrier-protein) reductase 4-like (*Cannabis sativa*) | 2 | 2 | K.NLEGPVVVVTGASR.G;<br>R.IVNIASVVGLVGNAGQANYSAAK.A | 33383 |
| **A9** | XP_030508280.1 | Vicilin C72-like (*Cannabis sativa*) | 2 | 1 | R.ADVIVVPAGSTVYMTNQDNK.E + Oxidation (M) | 99860 |
| **A9** | XP_030493178.1 | Sucrose-binding protein-like (*Cannabis sativa*) | 2 | 2 | K.LINPVSLPGR.F<br>R.ETFNLVEGDILNIPAGTPVYIVNR.D + Deamidated (NQ) | 55771 |
| **B1** | XP_030508280.1 | Vicilin C72-like (*Cannabis sativa*) | 4 | 1 | R.ADVIVVPAGSTVYMTNQDNK.E | 99860 |
| **B1** | CDP79023.1 | Edestin 1 (*Cannabis sativa*) | 2 | 2 | K.TNDNAWVSPLAGR.T;<br>R.GQGQGQSQGSQPDR.H | 58810 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **B3** | CDP79023.1 | Edestin 1 (*Cannabis sativa*) | 1 | 1 | R.GQGQGQSQGSQPDR.H + Deamidated (NQ) | 58810 |
| **B5** | CDP79023.1 | Edestin 1 (*Cannabis sativa*) | 1 | 1 | R.GQGQGQSQGSQPDR.H | 58810 |
| **B6** | CDP79023.1 | Edestin 1 (*Cannabis sativa*) | 9 | 4 | R.LQGQNDDR + Deamidated (NQ);<br>K.TNDNAWVSPLAGR.T;<br>R.GQGQGQSQGSQPDR.H;<br>R.YLEEAFNVDSETVK.R + Deamidated (NQ) | 58810 |
| **B7** | XP_030508280.1 | Vicilin C72-like (*Cannabis sativa*) | 96 | 11 | K.ESLQIVK ;<br>R.TVGFGVNAR.N;<br>R.ADVIVVPAGSTVYMTNQDNK.E + Oxidation (M);<br>K.FYEVTPEQNK.Q;<br>K.TTVLVMVVEGTGR.M;;<br>K.LSYFVSQQQQEEGR.G;<br>R.GHESSGPVISLQNQSPR.Y;<br>R.ADVIVVPAGSTVYMTNQDNK.E;<br>K.EAQELAFNMQGSEVEQIFNQPK.L;<br>R.VTAQLSPGDVFIIPAGHPVAVVANNNQK.L;<br>R.ADVIVVPAGSTVYMTNQDNKESLQIVK.L + Oxidation (M); | 99860 |
| **B7** | CDP79023.1 | Edestin 1 (*Cannabis sativa*) | 15 | 9 | K.GTLDLVSPLR.S;<br>K.TNDNAWVSPLAGR.T;<br>R.EETVLLTSSTSSR.R;<br>R.GQGQGQSQGSQPDR.H;<br>K.QASSDGFEWVSFK.T; | 58810 |

|  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|
|  |  |  |  |  | R.LQGQNDDRNSIIR.V;<br>R.YLEEAFNVDSETVK.R;<br>R.YLEEAFNVDSETVK.R + Deamidated (NQ);<br>R.GILGVTFPGCPETFEESQR.G |  |
| **B7** | XP_030493178.1 | Sucrose-binding protein-like (*Cannabis sativa*) | 15 | 5 | K.ELAFSVPAR.E;<br>R.SSGPFNLFR.D;<br>K.SQNEEYFFPGPR.S;<br>R.FEPFYGAGGENPESFYK.A;<br>R.ETFNLVEGDILNIPAGTPVYIVNR.D | 55771 |
| **B7** | CDP79028.1 | Edestin 2 (*Cannabis sativa*) | 1 | 1 | R.AMPDDVLANAFQISR.E + Oxidation (M) | 56277 |
| **B8** | CDP79028.1 | Edestin 2 (*Cannabis sativa*) | 64 | 12 | R.GTSSPSSR.G;<br>R.GEDLQIIAPSR.I;<br>R.WQSQCQFQR.L;<br>R.SEGASSDEQHQK.V;<br>R.VRGEDLQIIAPSR.I;<br>R.AMPDDVLANAFQISR.E + Oxidation (M);<br>R.ILAESFNVDTELAHK.L;<br>R.GIHGAVIPGCPETFER.G;<br>R.ESGEQTPNGNIFSGFDTR.I;<br>R.GLLLPSFLNAPMMFYVIQGR.G + 2 Oxidation (M);<br>R.VECEAGVSEYWDIQNTEDDELHCAGVETAR.H | 56277 |
| **B8** | CDP79023.1 | Edestin 1 (*Cannabis sativa*) | 14 | 8 | K.GTLDLVSPLR.S;<br>R.QQNQCQIDR.I;<br>K.TNDNAWVSPLAGR.T;<br>R.GQGQGQSQGSQPDR.H;<br>K.QASSDGFEWVSFK.T;<br>R.YLEEAFNVDSETVK.R;<br>R.FYLAGNPEDEFEQLR.R;<br>R.GILGVTFPGCPETFEESQR.G | 58810 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **B8** | SNQ45160.1 | Edestin 3 (*Cannabis sativa*) | 9 | 6 | K.QQEGLPNNVFR.G;<br>R.GFSVNLIQEAFNVDSETAR.K;<br>R.TAVYGDQNECQLNR.L;<br>R.GVLGTLFPGCAETFEEAQVSVGGGR.S;<br>R.AMPEDVIANSYQISR.E + Oxidation (M);<br>R.IEEEKQQEGLPNNVFR.G | 56473 |
| **B8** | XP_030493178.1 | Sucrose-binding protein-like (*Cannabis sativa*) | 2 | 1 | R.ETFNLVEGDILNIPAGTPVYIVNR.D | 55771 |
| **B8** | XP_030508280.1 | Vicilin C72-like (*Cannabis sativa*) | 1 | 1 | R.ADVIVVPAGSTVYMTNQDNK.E + Oxidation (M) | 99860 |
| **B9** | SNQ45160.1 | Edestin 3 (*Cannabis sativa*) | 97 | 13 | K.IQSQDDFR.G;<br>R.QELQQTER.E;<br>R.KIQSQDDFR.G;<br>K.QQEGLPNNVFR.G;<br>R.TAVYGDQNECQLNR.L;<br>R.AMPEDVIANSYQISR.E + Oxidation (M);<br>R.FYIAGNPHEDFPQSR.R;<br>R.IEEEKQQEGLPNNVFR.G;<br>R.GFSVNLIQEAFNVDSETAR.K;<br>R.VECEGGMIESWNPNHEQFQCAGVALLR.L + Deamidated (NQ);<br>R.GVLGTLFPGCAETFEEAQVSVGGGR.S;<br>R.LTIQPNGLHLPSYTNGPQLIHVIR.G + 2 Deamidated (NQ) | 56473 |
| **B9** | CDP79023.1 | Edestin 1 (*Cannabis sativa*) | 105 | 23 | R.ADVFTPQAGR;<br>K.GTLDLVSPLR.S;<br>R.QQNQCQIDR.I;<br>R.VKGTLDLVSPLR.S;<br>K.TNDNAWVSPLAGR.T;<br>R.EETVLLTSSTSSR.R;<br>R.GQGQGQSQGSQPDR.H;<br>K.QASSDGFEWVSFK.T;<br>R.ISTVNSYNLPILR.F;<br>R.LQGQNDDRNSIIR.V; | 55810 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | R.ALPEAVLANAFQISR.D;<br>R.YLEEAFNVDSETVKR.L ;<br>R.FYLAGNPEDEFEQLRR.E;<br>R.RFYLAGNPEDEFEQLR.R;<br>R.VEAEAGLIESWNPNHNQFQCAGVAVVR.Y;<br>R.GILGVTFPGCPETFEESQR.G;<br>R.GILGVTFPGCPETFEESQRGQGQGQSQGSQPDR.H + 2 Deamidated (NQ);<br>R.YTIQQNGLHLPSYTNTPQLVYIVK.G + Deamidated (NQ);<br>R.EGDIVAIPAGVAYWSYNNGDQQLVFVSLLDTSNVNNQLDDNPR.R | |
| **B9** | CDP79027.1 | Edestin 2 (*Cannabis sativa*) | 47 | 14 | R.GEDLQIIAPSR.I;<br>R.WQSQCQFQR.L;<br>R.RESGEQTPNGNIFSGFDTR.I + Deamidated (NQ);<br>R.VRGEDLQIIAPSR.I;<br>R.LNTLNNYNLPILR.F;<br>R.ILAESFNVDTELAHK.L;<br>R.GIHGAVIPGCPETFER.G;<br>R.QNIDRPSQADIFNPR.G;<br>R.ESGEQTPNGNIFSGFDTR.I;<br>R.GLLLPSFLNAPMMFYVIQGR.G + 2 Oxidation (M);<br>R.VECEAGVSEYWDIQNTEDDELHCAGVETAR.H;<br>K.EGDMVAMPAGVADWVYNNGDSPLVLIAFVDVGNQANQLDQFSR.R + 2 Oxidation (M) | 56338 |
| **B9** | XP_030506286.1 | NADPH-dependent aldehyde reductase 1, chloroplastic-like (*Cannabis sativa*) | 7 | 6 | K.LLDYTATK.G;<br>K.IALVSGGDSGIGR.A;<br>R.VVDEVINAYGR.I;<br>K.EGSCVINTTSVNAYK.G;<br>R.VNGVAPGPIWTPLIPSSFSEDHTAK.F + Deamidated (NQ);<br>R.IDILINNAAEQYVTSSIEEIDEAR.L | 32167 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **B9** | XP_006348126.1 | Lactoylglutathione lyase GLX1 (*Solanum lycopersicum*) | 4 | 3 | K.ITSFLDPDGWK.T;<br>K.DPDGYLFEIIQR.E;<br>K.GNAYAQIAIGTDDVYK.S | 32953 |
| **B9** | XP_030508280.1 | Vicilin C72-like (*Cannabis sativa*) | 1 | 1 | R.ADVIVVPAGSTVYMTNQDNK.E + Oxidation (M) | 99860 |
| **B9** | XP_030481474.1 | Mitochondrial outer membrane protein porin of 34 kDa-like (*Cannabis sativa*) | 1 | 1 | K.SFFTISGDVDTK.A | 29450 |
| **C1** | XP_030508280.1 | Vicilin C72-like (*Cannabis sativa*) | 15 | 6 | R.TVGFGVNAR.N;<br>K.FYEVTPEQNK.Q;<br>R.RGEQEEESQSGK.I + Deamidated (NQ);<br>K.LSYFVSQQQQEEGR.G;<br>R.GHESSGPVISLQNQSPR.Y;<br>R.ADVIVVPAGSTVYMTNQDNK.E | 99860 |
| **C1** | PNY00005.1 | Tubulin alpha-3 chain-like protein (*Trifolium pratense*) | 5 | 4 | R.TVQFVDWCPTGFK.C;<br>R.AVFVDLEPTVIDEVR + Deamidated (NQ);<br>R.AFVHWYVGEGMEEGEFSEAR.E;<br>R.FDGAINVDITEFQTNLVPYPR.I | 50123 |
| **C1** | GAX73914.1 | Hypothetical protein CEUSTIGMA_g1364.t1 (*Chlamydomonas eustigma*) | 2 | 2 | K.FWEVLSDEHGIDPTGTYHGDSDLQLER.I;<br>K.NSSYFVEWIPNNVK.A + Deamidated (NQ) | 84690 |
| **C1** | CDP79023.1 | Edestin 1 (*Cannabis sativa*) | 1 | 1 | R.GQGQGQSQGSQPDR.H | 58810 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **C1** | XP_030508778.1 | ADP-ribosylation factor 1 (*Cannabis sativa*) | 4 | 3 | R.DAVVLVFANK.Q ;<br>K.NISFTVWDVGGQDK.I;<br>K.LGEIVTTIPTIGFNVETVEYK.N | 20624 |
| **C1** | XP_030493178.1 | Sucrose-binding protein-like (*Cannabis sativa*) | 1 | 1 | K.SQNEEYFFPGPR.S | 55771 |
| **D1** | XP_030508280.1 | Vicilin C72-like (*Cannabis sativa*) | 19 | 7 | R.TVGFGVNAR.N;<br>K.FYEVTPEQNK.Q;<br>K.TTVLVMVVEGTGR.M + Oxidation (M);<br>K.LSYFVSQQQQEEGR.G;<br>R.GHESSGPVISLQNQSPR.Y;<br>R.ADVIVVPAGSTVYMTNQDNK.E;<br>K.EAQELAFNMQGSEVEQIFNQPK.L + Oxidation (M) | 99860 |
| **D1** | CDP79023.1 | Edestin 1 (*Cannabis sativa*) | 10 | 7 | K.GTLDLVSPLR.S;<br>K.TNDNAWVSPLAGR.T;<br>R.GQGQGQSQGSQPDR.H;<br>R.LQGQNDDRNSIIR.V + 2 Deamidated (NQ);<br>R.YLEEAFNVDSETVK.R + Deamidated (NQ);<br>R.YLEEAFNVDSETVKR.L;<br>R.GILGVTFPGCPETFEESQR.G | 58810 |
| **D1** | XP_030493178.1 | Sucrose-binding protein-like (*Cannabis sativa*) | 8 | 5 | K.ELAFSVPAR.E;<br>R.SSGPFNLFR.D;<br>K.LINPVSLPGR.F;<br>K.SQNEEYFFPGPR.S;<br>R.FEPFYGAGGENPESFYK.A | 55771 |
| **D1** | CDP79028.1 | Edestin 2 (*Cannabis sativa*) | 2 | 2 | R.GEDLQIIAPSR.I;<br>R.AMPDDVLANAFQISR.E + Oxidation (M) | 56277 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **E1** | AAO45103.1 | Beta-conglycinin alpha' subunit, partial (*Glycine max*) | 4 | 4 | R.LQESVIVEISK;<br>R.LQESVIVEISKeQIR.A;<br>NILEASYDTKFEEINK.V;<br>R.FESFFLSSTQAQQSYLQGFSK.N | 44991 |
| **E1** | CDP79023.1 | Edestin 1 (*Cannabis sativa*) | 3 | 3 | K.TNDNAWVSPLAGR.T;<br>R.GQGQGQSQGSQPDR.H;<br>R.GILGVTFPGCPETFEESQR.G | 58810 |
| **E1** | CDP79027.1 | Edestin 2 (*Cannabis sativa*) | 4 | 2 | R.GEDLQIIAPSR.I;<br>R.ESGEQTPNGNIFSGFDTR.I; | 56338 |
| **E1** | KHN10743.1 | Glycinin G2 (*Glycine soja*) | 2 | 2 | K.SQSDNFEYVSFK.T;<br>R.RFYLAGNQEQEFLK.Y | 59640 |
| **E2** | SNQ45160.1 | Edestin 3 (*Cannabis sativa*) | 26 | 8 | K.IQSQDDFR.G;<br>K.QQEGLPNNVFR.G;<br>R.TAVYGDQNECQLNR.L;<br>R.FYIAGNPHEDFPQSR.R;<br>R.IEEEKQQEGLPNNVFR.G;<br>R.GFSVNLIQEAFNVDSETAR.K;<br>R.GVLGTLFPGCAETFEEAQVSVGGGR.S;<br>R.VECEGGMIESWNPNHEQFQCAGVALLR.L + Oxidation (M) | 56473 |
| **E2** | CDP79028.1 | edestin 2 (*Cannabis sativa*) | 21 | 9 | R.GEDLQIIAPSR.I;<br>R.WQSQCQFQR.L;<br>R.VRGEDLQIIAPSR.I;<br>R.AMPDDVLANAFQISR.E + Oxidation (M);<br>R.ILAESFNVDTELAHK.L;<br>R.GIHGAVIPGCPETFER.G;<br>R.ESGEQTPNGNIFSGFDTR.I; | 56277 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | R.VECEAGVSEYWDIQNTEDDELHCAGVETAR.H | |
| **E2** | XP_030506286.1 | NADPH-dependent aldehyde reductase 1, chloroplastic-like (*Cannabis sativa*) | 1 | 1 | K.IALVSGGDSGIGR.A | 32167 |
| **E3** | CDP79023.1 | edestin 1 (*Cannabis sativa*) | 8 | 7 | K.GTLDLVSPLR.S;<br>K.TNDNAWVSPLAGR.T;<br>R.EETVLLTSSTSSR.R;<br>R.GQGQGQSQGSQPDR.H;<br>K.QASSDGFEWVSFK.T;<br>R.YLEEAFNVDSETVK.R+ Deamidated (NQ);<br>R.GILGVTFPGCPETFEESQR.G | 58810 |
| **E3** | SNQ45153.2 | 7S vicilin-like protein (*Cannabis sativa*) | 3 | 3 | K.EGDVFWVPR.Y;<br>K.SPDSYNLYDGK.K;<br>R.ESVILPTSAASPPVK.L | 56026 |
| **E3** | CDP79028.1 | edestin 2 (*Cannabis sativa*) | 2 | 2 | R.LQVVDDNGR.N;<br>R.AMPDDVLANAFQISR.E + Oxidation (M) | 56277 |
| **F1** | CDP79023.1 | Edestin 1 (*Cannabis sativa*) | 7 | 5 | K.GTLDLVSPLR.S;<br>K.TNDNAWVSPLAGR.T + Deamidated (NQ);<br>R.GQGQGQSQGSQPDR.H;<br>R.YLEEAFNVDSETVK.R + Deamidated (NQ);<br>R.GILGVTFPGCPETFEESQR.G | 58810 |
| **F1** | CDP79027.1 | Edestin 2 (*Cannabis sativa*) | 5 | 2 | R.GEDLQIIAPSR.I;<br>R.ESGEQTPNGNIFSGFDTR.I | 56338 |
| **F2** | XP_030508280.1 | vicilin C72-like (*Cannabis sativa*) | 73 | 9 | K.ESLQIVK.L;<br>R.TVGFGVNAR.N;<br>K.FYEVTPEQNK.Q; | 99860 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | K.TTVLVMVVEGTGR.M;<br>K.LSYFVSQQQQEEGR.G;<br>R.GHESSGPVISLQNQSPR.Y;<br>R.ADVIVVPAGSTVYMTNQDNK.E;<br>K.EAQELAFNMQGSEVEQIFNQPK.L;<br>R.VTAQLSPGDVFIIPAGHPVAVVANNNQK.L + Deamidated (NQ) | |
| **F2** | CDP79023.1 | Edestin 1 (*Cannabis sativa*) | 32 | 12 | R.LQGQNDDR + Deamidated (NQ);<br>R.GQGQGQSQGSQPDR.H;<br>K.GTLDLVSPLR.S;<br>R.QQNQCQIDR.I;<br>K.TNDNAWVSPLAGR.T;<br>R.EETVLLTSSTSSR.R;<br>R.GQGQGQSQGSQPDR.H;<br>R.LQGQNDDRNSIIR.V;<br>R.YLEEAFNVDSETVK.R;<br>R.YLEEAFNVDSETVKR.L;<br>R.FYLAGNPEDEFEQLRR.E;<br>R.GILGVTFPGCPETFEESQR.G | 58810 |
| **F2** | SNQ45160.1 | Edestin 3 (*Cannabis sativa*) | 26 | 5 | K.QQEGLPNNVFR.G ;<br>R.TAVYGDQNECQLNR.L;<br>R.IEEEKQQEGLPNNVFR.G;<br>R.GFSVNLIQEAFNVDSETAR.K;<br>R.GVLGTLFPGCAETFEEAQVSVGGGR.S | 56473 |
| **F2** | CDP79028.1 | Edestin 2 (*Cannabis sativa*) | 29 | 8 | R.GEDLQIIAPSR.I;<br>R.WQSQCQFQR.L;<br>R.RESGEQTPNGNIFSGFDTR.I;<br>R.VRGEDLQIIAPSR.I;<br>R.AMPDDVLANAFQISR.E + Oxidation (M);<br>R.ILAESFNVDTELAHK.L;<br>R.GIHGAVIPGCPETFER.G;<br>R.ESGEQTPNGNIFSGFDTR.I | 56277 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **F2** | XP_030493178.1 | Sucrose-binding protein-like (*Cannabis sativa*) | 12 | 5 | K.ELAFSVPAR.E;<br>K.LINPVSLPGR.F;<br>K.SQNEEYFFPGPR.S;<br>R.ETFNLVEGDILNIPAGTPVYIVNR.D;<br>R.FEPFYGAGGENPESFYK.A | 55771 |
| **F2** | XP_030506286.1 | NADPH-dependent aldehyde reductase 1, chloroplastic-like. (*Cannabis sativa*) | 1 | 1 | K.IALVSGGDSGIGR.A | 32167 |
| **G1** | SNQ45160.1 | Edestin 3 (*C. sativa*) | 41 | 10 | K.LDLVKPQR.S;<br>R.KIQSQDDFR.G;<br>K.QQEGLPNNVFR.G;<br>R.TAVYGDQNECQLNR.L;<br>R.AMPEDVIANSYQISR.E + Oxidation (M);<br>R.FYIAGNPHEDFPQSR.R;<br>R.IEEEKEQEGLPNNVFR.G;<br>R.GFSVNLIQEAFNVDSETAR.K;<br>R.GVLGTLFPGCAETFEEAQVSVGGGR.S;<br>R.VECEGGMIESWNPNHEQFQCAGVALLR.L + Oxidation (M); | 56473 |
| **G1** | CDP79023.1 | Edestin 1 (*Cannabis sativa*) | 39 | 15 | K.GTLDLVSPLR.S;<br>R.QQNQCQIDR.I;<br>R.VKGTLDLVSPLR.S;<br>K.TNDNAWVSPLAGR.T;<br>R.GQGQGQSQGSQPDR.H;<br>R.ISTVNSYNLPILR.F;<br>R.LQGQNDDRNSIIR.V;<br>R.ALPEAVLANAFQISR.D;<br>R.YLEEAFNVDSETVK.R + Deamidated (NQ);<br>R.FYLAGNPEDEFEQLR.R;<br>R.YTIQQNGLHLPSYTNTPQLVYIVK + 2 Deamidated (NQ);<br>R.FYLAGNPEDEFEQLRR.E;<br>R.VEAEAGLIESWNPNHNQFQCAGVAVVR.Y;<br>R.GILGVTFPGCPETFEESQR.G; | 58810 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | R.YTIQQNGLHLPSYTNTPQLVYIVK.G + Deamidated (NQ); | |
| **G1** | CDP79028.1 | Edestin 2 (*Cannabis sativa*) | 26 | 10 | R.GEDLQIIAPSR.I;<br>K.ASAQGFEWIAVK.T;<br>R.VRGEDLQIIAPSR.I;<br>R.LNTLNNYNLPILR.F;<br>R.AMPDDVLANAFQISR.E + Oxidation (M);<br>R.ILAESFNVDTELAHK.L;<br>R.GIHGAVIPGCPETFER.G;<br>R.ESGEQTPNGNIFSGFDTR.I;<br>R.GLLLPSFLNAPMMFYVIQGR.G + 2 Oxidation (M) | 56277 |
| **G1** | SNQ45153.2 | 7S vicilin-like protein (*Cannabis sativa*) | 4 | 4 | K.ATEYGIILK.G;<br>K.eGDVFWVPR.Y;<br>R.ESVILPTSAASPPVK.L;<br>R.AGPMEFFGFTTSAR.K + Oxidation (M) | 56026 |
| **G1** | XP_030506286.1 | NADPH-dependent aldehyde reductase 1, chloroplastic-like (*Cannabis sativa*) | 1 | 1 | K.IALVSGGDSGIGR.A | 32167 |
| **H1** | CDP79023.1 | Edestin 1 (*Cannabis sativa*) | 2 | 2 | K.TNDNAWVSPLAGR.T;<br>R.GQGQGQSQGSQPDR.H | 58810 |
| **H1** | SNQ45158.1 | Edestin 3 (*Cannabis sativa*) | 1 | 1 | K.EQEGLPNNVFR.G | 56672 |
| **H2** | CDP79023.1 | Edestin 1 (*Cannabis sativa*) | 3 | 3 | K.TNDNAWVSPLAGR.T;<br>R.EETVLLTSSTSSR.R;<br>R.GQGQGQSQGSQPDR.H | 58810 |

|  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|
| **H2** | SNQ45153.2 | 7S vicilin-like protein (*Cannabis sativa*) | 3 | 3 | K.ATEYGIILK.G;<br>K.EGDVFWVPR.Y;<br>K.SPDSYNLYDGK.K | 56016 |
| **H2** | CDP79027.1 | Edestin 2 (*Cannabis sativa*) | 1 | 1 | R.GEDLQIIAPSR.I | 56338 |
| **I1** | SNQ45158.1 | Edestin 3 (*Cannabis sativa*) | 3 | 2 | R.GFSVNLIQEAFNVDSETAR.K;<br>R.GVLGTLFPGCAETFEEAQVSVGGGR.S | 56672 |
| **I1** | CDP79023.1 | Edestin 1 (*Cannabis sativa*) | 3 | 3 | R.QQNQCQIDR.I;<br>R.GQGQGQSQGSQPDR.H;<br>R.GILGVTFPGCPETFEESQR.G | 58810 |
| **I2** | CDP79023.1 | Edestin 1 (*Cannabis sativa*) | 12 | 10 | K.GTLDLVSPLR.S;<br>R.QQNQCQIDR.I;<br>K.TNDNAWVSPLAGR.T;<br>R.GQGQGQSQGSQPDR.H;<br>R.LQGQNDDRNSIIR.V;<br>R.YLEEAFNVDSETVK.R;<br>R.FYLAGNPEDEFEQLR.R;<br>R.GILGVTFPGCPETFEESQR.G;<br>R.YTIQQNGLHLPSYTNTPQLVYIVK + 2 Deamidated (NQ) | 58810 |
| **I2** | XP_030508280.1 | vicilin C72-like (*Cannabis sativa*) | 6 | 3 | K.FYEVTPEQNK.Q;<br>K.TTVLVMVVEGTGR.M;<br>R.ADVIVVPAGSTVYMTNQDNK.E; | 99860 |
| **I2** | XP_030493178.1 | sucrose-binding protein-like (*Cannabis sativa*) | 2 | 2 | K.ELAFSVPAR.E;<br>K.SQNEEYFFPGPR.S | 55771 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **I3** | XP_030508280.1 | vicilin C72-like (*Cannabis sativa*) | 21 | 7 | K.ESLQIVK;<br>R.TVGFGVNAR.N;<br>K.FYEVTPEQNK.Q;<br>K.TTVLVMVVEGTGR.M;<br>K.LSYFVSQQQQEEGR.G;<br>R.ADVIVVPAGSTVYMTNQDNK.E;<br>K.EAQELAFNMQGSEVEQIFNQPK.L + Oxidation (M) | 99860 |
| **I3** | CDP79023.1 | Edestin 1 (*Cannabis sativa*) | 8 | 5 | K.TNDNAWVSPLAGR.T;<br>R.GQGQGQSQGSQPDR.H;<br>K.QASSDGFEWVSFK.T;<br>R.YLEEAFNVDSETVK.R;<br>R.GILGVTFPGCPETFEESQR.G | 58810 |
| **I3** | XP_030493178.1 | sucrose-binding protein-like (*Cannabis sativa*) | 6 | 3 | K.ELAFSVPAR.E;<br>K.LINPVSLPGR.F;<br>K.SQNEEYFFPGPR.S | 55771 |
| **I3** | SNQ45160.1 | Edestin 3 (*Cannabis sativa*) | 2 | 2 | K.QQEGLPNNVFR.G;<br>K.QQEGLPNNVFR | 56473 |
| **I4** | CDP79028.1 | Edestin 2 (*Cannabis sativa*) | 33 | 10 | R.LQVVDDNGR.N;<br>R.GEDLQIIAPSR.I;<br>R.WQSQCQFQR.L;<br>K.ASAQGFEWIAVK.T;<br>R.AMPDDVLANAFQISR.E + Oxidation (M);<br>R.ILAESFNVDTELAHK.L;<br>R.GIHGAVIPGCPETFER.G;<br>R.ESGEQTPNGNIFSGFDTR.I;<br>R.GLLLPSFLNAPMMFYVIQGR.G + 2 Oxidation (M) | 56277 |

|  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|
| **I4** | CDP79023.1 | Edestin 1 (*Cannabis sativa*) | 15 | 9 | R.ADVFTPQAGR.I;<br>K.TNDNAWVSPLAGR.T;<br>R.EETVLLTSSTSSR.R;<br>K.QASSDGFEWVSFK.T;<br>R.ISTVNSYNLPILR.F;<br>R.ALPEAVLANAFQISR.D;<br>R.YLEEAFNVDSETVK.R;<br>R.FYLAGNPEDEFEQLR.R;<br>R.GILGVTFPGCPETFEESQR.G | 58810 |
| **I4** | SNQ45160.1 | Edestin 3 (*Cannabis sativa*) | 6 | 4 | K.QQEGLPNNVFR.G;<br>R.IEEEKQQEGLPNNVFR.G;<br>R.GFSVNLIQEAFNVDSETAR.K;<br>R.GVLGTLFPGCAETFEEAQVSVGGGR.S | 56473 |
| **I4** | SNQ45153.2 | 7S vicilin-like protein (*Cannabis sativa*) | 7 | 4 | K.ATEYGIILK.G;<br>K.EGDVFWVPR.Y;<br>K.SPDSYNLYDGK.K;<br>R.YFPFCQIASR.A | 56026 |
| **I4** | BAK03519.1 | Predicted protein (*Hordeum vulgare* subs. Vulgare) | 2 | 2 | R.LIGQIVSSITASLR.F | 50667 |
| **I5** | CDP79023.1 | edestin 1 (*Cannabis sativa*) | 86 | 18 | K.GTLDLVSPLR.S;<br>R.QQNQCQIDR.I;<br>R.VKGTLDLVSPLR.S;<br>K.TNDNAWVSPLAGR.T;<br>R.EETVLLTSSTSSR.R;<br>R.GQGQGQSQGSQPDR.H;<br>R.LQGQNDDRNSIIR.V + Deamidated (NQ);<br>R.ALPEAVLANAFQISR.D;<br>R.YLEEAFNVDSETVKR.L;<br>R.YLEEAFNVDSETVK.R + Deamidated (NQ); | 58810 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **I5** | CDP79028.1 | edestin 2 (*Cannabis sativa*) | 58 | 14 | R.FYLAGNPEDEFEQLRR.E;<br>R.VEAEAGLIESWNPNHNQFQCAGVAVVR.Y;<br>R.GILGVTFPGCPETFEESQR.G;<br>R.YTIQQNGLHLPSYTNTPQLVYIVK.G + Deamidated (NQ);<br>R.LQVVDDNGR.N;<br>R.GEDLQIIAPSR.I;<br>R.WQSQCQFQR.L;<br>K.ASAQGFEWIAVK.T;<br>R.VRGEDLQIIAPSR.I;<br>R.LNTLNNYNLPILR.F;<br>R.AMPDDVLANAFQISR.E + Oxidation (M);<br>R.ILAESFNVDTELAHK.L;<br>R.GIHGAVIPGCPETFER.G;<br>R.QNIDRPSQADIFNPR.G + Deamidated (NQ);<br>R.RESGEQTPNGNIFSGFDTR.I;<br>R.GLLLPSFLNAPMMFYVIQGR.G + 2 Oxidation (M);<br>R.VECEAGVSEYWDIQNTEDDELHCAGVETAR.H | 56227 |
| **I5** | XP_004232705.1 | Lactoylglutathione lyase GLX1 (*Solanum lycopersicum*) | 5 | 3 | K.ITSFLDPDGWK.T<br>K.DPDGYLFEIIQR.E<br>K.GNAYAQIAIGTDDVYK.S | 32972 |
| **I5** | XP_030506286.1 | NADPH-dependent aldehyde reductase 1, chloroplastic-like (*Cannabis sativa*) | 5 | 3 | K.LLDYTATK.G<br>K.IALVSGGDSGIGR.A<br>K.EGSCVINTTSVNAYK.G | 32167 |
| **I5** | XP_030508280.1 | vicilin C72-like (*Cannabis sativa*) | 2 | 2 | K.FYEVTPEQNK.Q<br>K.LSYFVSQQQQEEGR.G | 99860 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **I5** | XP_030493178.1 | sucrose-binding protein-like (*Cannabis sativa*) | 3 | 3 | K.ELAFSVPAR.E<br>K.LINPVSLPGR.F<br>R.FEPFYGAGGENPESFYK.A | 55771 |
| **I6** | XP_030508280.1 | vicilin C72-like (*Cannabis sativa*) | 29 | 8 | K.ESLQIVK;<br>R.TVGFGVNAR.N + Deamidated (NQ);<br>K.FYEVTPEQNK.Q;<br>K.TTVLVMVVEGTGR.M;<br>K.LSYFVSQQQQEEGR.G;<br>K.EAQELAFNMQGSEVEQIFNQPK.L + Oxidation (M);<br>R.GHESSGPVISLQNQSPR.Y;<br>R.ADVIVVPAGSTVYMTNQDNK.E; | 99860 |
| **I6** | XP_030493178.1 | sucrose-binding protein-like (*Cannabis sativa*) | 11 | 4 | K.ELAFSVPAR.E;<br>K.LINPVSLPGR.F;<br>K.SQNEEYFFPGPR.S;<br>R.FEPFYGAGGENPESFYK.A | 55771 |
| **I6** | CDP79023.1 | edestin 1 (*Cannabis sativa*) | 8 | 5 | K.GTLDLVSPLR.S;<br>K.TNDNAWVSPLAGR.T;<br>R.GQGQGQSQGSQPDR.H;<br>K.QASSDGFEWVSFK.T;<br>R.ISTVNSYNLPILR.F + Deamidated (NQ) | 58810 |
| **I6** | SNQ45153.2 | 7S vicilin-like protein (*Cannabis sativa*) | 5 | 3 | K.EGDVFWVPR.Y;<br>R.ISAGSAFYiVNTGEGQR;<br>K.EILSSQQEGPIVYIPDSR.S; | 56026 |
| **I6** | CDP79028.1 | edestin 2 (*Cannabis sativa*) | 1 | 1 | R.AMPDDVLANAFQISR.E | 56277 |
| **L1** | CDP79023.1 | edestin 1 (*Cannabis sativa*) | 18 | 7 | R.ENIGDPSR.A;<br>R.FLQLSAER.G;<br>R.ADVFTPQAGR.I; | 58810 |

|  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|
|  |  |  |  |  | K.TNDNAWVSPLAGR.T;<br>R.EETVLLTSSTSSR.R;<br>K.QASSDGFEWVSFK.T;<br>R.ISTVNSYNLPILR.F; |  |
| **L2** | CDP79023.1 | edestin 1 (*Cannabis sativa*) | 4 | 2 | K.TNDNAWVSPLAGR.T R.EETVLLTSSTSSR.R | 58810 |
| **L2** | SNQ45158.1 | edestin 3 (*Cannabis sativa*) | 4 | 3 | R.ADVFSPQAGR.L<br>R.CQVVDNNGR.S<br>R.AMPEDVIANSYQISR.E | 56672 |
| **L3** | SNQ45158.1 | edestin 3 (*Cannabis sativa*) | 8 | 4 | R.ESMGDPAR.A<br>R.ADVFSPQAGR.L<br>R.QGQALTVPQNFAVVK.M<br>R.AMPEDVIANSYQISR.E | 56672 |
| **L3** | CDP79023.1 | edestin 1 (*Cannabis sativa*) | 3 | 1 | K.TNDNAWVSPLAGR.T | 58810 |
| **L4** | CDP79028.1 | edestin 2 (*Cannabis sativa*) | 11 | 5 | R.LQVVDDNGR.N<br>R.AMPDDVLANAFQISR.E<br>K.ASAQGFEWIAVK.T<br>K.TNDNAMRNPLAGK.V | 56227 |
| **L4** | SNQ45158.1 | edestin 3 (*Cannabis sativa*) | 4 | 4 | R.AQVNQLAGK<br>R.ADVFSPQAGR.L<br>R.CQVVDNNGR.S<br>R.AMPEDVIANSYQISR.E | 56672 |
| **L4** | CDP79023.1 | edestin 1 (*Cannabis sativa*) | 2 | 1 | K.TNDNAWVSPLAGR.T | 58810 |
| **L5** | CDP79023.1 | edestin 1 (*Cannabis sativa*) | 3 | 1 | K.TNDNAWVSPLAGR.T; | 58810 |

|  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|
| **L5** | CDP79028.1 | edestin 2 (*Cannabis sativa*) | 6 | 2 | R.LQVVDDNGR.N + Deamidated (NQ);<br>R.AMPDDVLANAFQISR.E + Oxidation (M) | 56277 |
| **L5** | SNQ45158.1 | edestin 3 (*Cannabis sativa*) | 4 | 3 | R.ADVFSPQAGR.L;<br>R.CQVVDNNGR.S + Deamidated (NQ);<br>R.AMPEDVIANSYQISR.E + Oxidation (M) | 56672 |

**Table S3.** Spots with differential abundance from total protein extracts of Futura75 and Finola hemp seeds analyzed by 2D-PAGE. Spot number, ANOVA statistic parameters and samples showing changes in spot intensity are indicated.

| **Spot** | **Df** | **F** | **p-value** | **Differential expression** |
|---|---|---|---|---|
| **9** | 3 | 6,11004 | <0,05 | (+) Fin Vig vs Fin Cert |
| **12** | 3 | 8,57694 | <0,005 | (+) Fin Vig |
| **13** | 3 | 4,41576 | <0,05 | (+) Fin Cert vs Fut Cert |
| **22** | 3 | 23,11334 | <0,001 | (+) Fin Vig |
| **23** | 3 | 17,51602 | <0,001 | (+) Fin Vig |
| **33** | 3 | 4,49596 | <0,05 | (+) Fin Vig vs Fut Vig |
| **38** | 3 | 12,7898 | <0,001 | (+) Fin Vig |
| **39** | 3 | 13,73631 | <0,001 | (+) Fin Vig |
| **41** | 3 | 96,43931 | <0,001 | (+) Fin Vig |
| **42** | 3 | 22,29541 | <0,001 | (+) Fin Vig, (-) Fut Vig vs Fin Vig, Fin Cert |
| **49** | 3 | 81,99251 | <0,001 | (+) Fin Vig |
| **56** | 3 | 7,99074 | <0,005 | (+) Fin Cert vs Fut Vig, Fin Vig |
| **71** | 3 | 5,18847 | <0,05 | (-) Fin Vig vs Fut Vig |
| **72** | 3 | 8,12546 | <0,001 | (+) FinCert |
| **73** | 3 | 27,82664 | <0,001 | (-) Fin Vig, (+) Fin Cert |
| **74** | 3 | 7,52056 | <0,005 | (-) Fin Vig vs FinCert |
| **75** | 3 | 22,68718 | <0,001 | (-) Fin Vig |
| **76** | 3 | 20,31859 | <0,001 | (-) Fin Vig |
| **80** | 3 | 15,09476 | <0,001 | (+) Fin Cert, (+) Fut Cert vs Fin Vig |