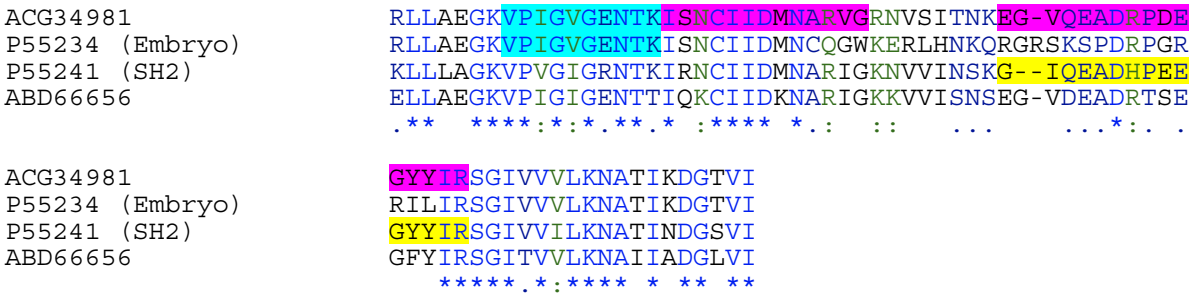
```
ACG34981                MQFSSVLPLEGKACMSPVRRGSGGYGSERMRINCCSIRRNKALRRMCFSA
P55234 (Embryo)         MQFSSVLPLEGKACMSPVRRGSGGYGSERMRINCCSIRRNKALRRMCFSA
P55241 (SH2)            MQFALALDTNSGPHQIRSCEGDGIDRLEKLSIGGR--KQEKALRNRCFGG
ABD66656                MGLRVAATAPAPAGVRVLGRGAA---------------RVTPRPWAAVGG
                        * :  .    . .      .* .                 : ..    ....

ACG34981                RGAVSSTQCVLTSDAGPDTLVVR-TSFRRNYADPNEVAAVILGGGTGTQL
P55234 (Embryo)         RGAVSSTQCVLTSDAGPDTLVRPNHPFRRNYADPNEVAAVILGGGTGTQL
P55241 (SH2)            R-VAATTQCILTSDACPETLHSQTQSSRKNYADANRVSAIILGGGTGSQL
ABD66656                RRRFSVRMSVATTEATTTIAVGASEDQALEARNSKTVVAVILGGGAGTRL
                        *   :   .: *::* .             :  :.: * *:*****:*::*

ACG34981                FPLTSTRATPAVPIGGCYRLIDIPMSNCFNSGINKIFVMTQFNSASLNRH
P55234 (Embryo)         FPLTSTRATPAVPIGGCYRLIDIPMSNCFNSGINKIFVMTQFNSASLNRH
P55241 (SH2)            FPLTSTRATPAVPVGGCYRLIDIPMSNCFNSGINKIFVMSQFNSTSLNRH
ABD66656                FPLTRRRAKPAVPIGGAYRLIDVPMSNCINSGINKVYILTQFNSQSLNRH
                        ****  **.****:**.*****:*****:******:::::**** *****

ACG34981                IHRTY-LGGGINFTDGSVEVLAATQMPG-EAAGWFQGTADAVRKFIWVLE
P55234 (Embryo)         IHRTY-LGGGINFTDGSVEVLAATQMPG-EAAGWFQGTADAVRKFIWVLE
P55241 (SH2)            IHRTY-LEGGINFADGSVQVLAATQMPE-EPAGWFQGTADSIRKFIWVLE
ABD66656                LSRAYDFSNGVAIGDGFVEVLAATQRPGTEGKRWFQGTADAVRQFDWLFD
                        : *:* : .*: : ** *:****** *  *   *******::*:* *:::

ACG34981                DYYKHKAIEHILILSGDQLYRMDYMELVQKHVDDNADITLSCAPVGESRA
P55234 (Embryo)         DYYKHKAIEHILILSGDQLYRMDYMELVQKHVDDNADITLSCAPVGESRA
P55241 (SH2)            DYYSHKSIDNIVILSGDQLYRMNYMELVQKHVEDDADITISCAPVDESRA
ABD66656                DAKS-KDIEDVLILSGDHLYRMDYMDFVQSHRQRGAGISICCLPIDGSRA
                        *  . * *:.::*****:****:**::**.* : .*.*::.* *:. ***

ACG34981                SDYGLVKFDSSGRVIQFSEKPKGAALEEMKVDTSFLNFAIDS-PAEYPYI
P55234 (Embryo)         SDYGLVKFDSSGRVIQFSEKPKGAALEEMKVDTSFLNFATCTLPAEYPYI
P55241 (SH2)            SKNGLVKIDHTGRVLQFFEKPKGADLNSMRVETNFLSYAIDD-AQKYPYL
ABD66656                SDFGLMKIDDTGRVISFSEKPKGDELKAMQVDTTVLGLSKEE-AENKPYI
                        *. **:*:* :***:.* *****  *: *:*:*..*. :    . : **:

ACG34981                ASMGVYVFKRDVLLDLLKSRYAELHDFGSEILPKALHEHNVQAYVFTDYW
P55234 (Embryo)         ASMGVYVFKRDVLLDLLKSRYAELHDFGSEILPKALHEHNVQAYVFTDYW
P55241 (SH2)            ASMGIYVFKKDALLDLLKSKYTQLHDFGSEILPRAVLDHSVQACIFTGYW
ABD66656                ASMGIYIFKKDILLNLLRWRFPTANDFGSEIIPASAKEIDVKAYLFNDYW
                        ****:*:**:* **:**: ::.  :******:* :  : .*:* :*..**

ACG34981                EDIGTIRSFFDANMALCEQPPKFEFYDPKTPFFTSPRYLPPTKSDKCRIK
P55234 (Embryo)         EDIGTIRSFFDANMALCEQPPKFEFYDPKTPFFTSPRYLPPTKSDKCRIK
P55241 (SH2)            EDVGTIKSFFDANLALTEQPSKFDFYDPKTPFFTAPRCLPPTQLDKCKMK
ABD66656                EDIGTIKSFFEANLALAEQPPRFSFYDADKPMYTSRRNLPPSMVNNSKIT
                        **:***:***:**:** ***.:*.***...*::*: * ***:  ::.::.

ACG34981                DAIISHGCFLRECAIEHSIVGVRSRLNSGCELKNTMMMGADLYETEDEIS
P55234 (Embryo)         DAIISHGCFLRECAIEHSIVGVPSRLNSGCELKNTMMMGADLYETEDEIS
P55241 (SH2)            YAFISDGCLLRECNIEHSVIGVCSRVSSGCELKDSVMMGADTYETEEEAS
ABD66656                DSIISHGCFLDNCRIEHSVVGVRSRIGSNVHLKDTVMLGADYYETAVERG
                         ::**.**:* :* ****::** **:.*. .**:::*:*** ***  * .
```



Supplemental Figure S6. Alignment of maize AGPase large subunit isoforms and location of recovered peptides. Maize AGPase large subunit isoforms identified by Genbank accession number were aligned using the program CLUSTALW. Characterized isoforms are the product of the *sh2* gene (P55241)[1,2] and the embryo-expressed isoform (P55234)[3]. Two additional putative AGPase large subunit homologs have been identfied by genomic or cDNA sequence but are not yet characterized (ACG34981, ABD66656). Yellow highlighted residues indicate peptide sequences from proteins that associate with starch biosynthetic enzymes (see Supplemental Table S1 for details). All the recovered peptides are specific to the SH2 isoform. Green highlighted residues indicate predicted plastid targeting peptides according to ChloroP.

References

1. Bhave, MR, Lawrence, S, Barton, C, Hannah, LC. (1990) Identification and molecular characterization of shrunken-2 cDNA clones of maize. *Plant Cell* **2**, 581-588.

2. Shaw, JR, Hannah, LC. (1992) Genomic nucleotide sequence of a wild-type *shrunken-2* allele of *Zea mays*. *Plant Physiol* **98**, 1214-1216.

3. Giroux, M, Smith-White, B, Gilmore, V, Hannah, LC, Preiss, J. (1995) The large subunit of the embryo isoform of ADP glucose pyrophosphorylase from maize. *Plant Physiol* **108**, 1333-1334.