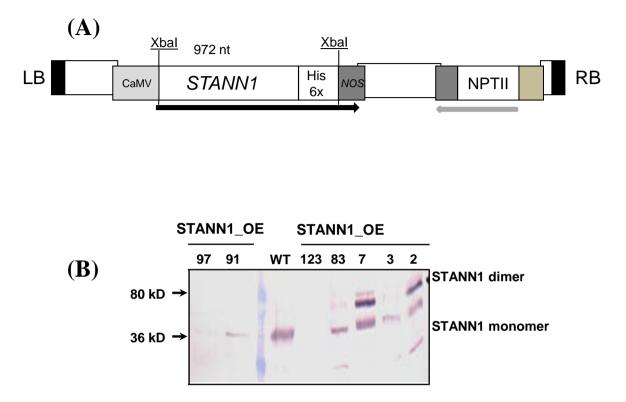
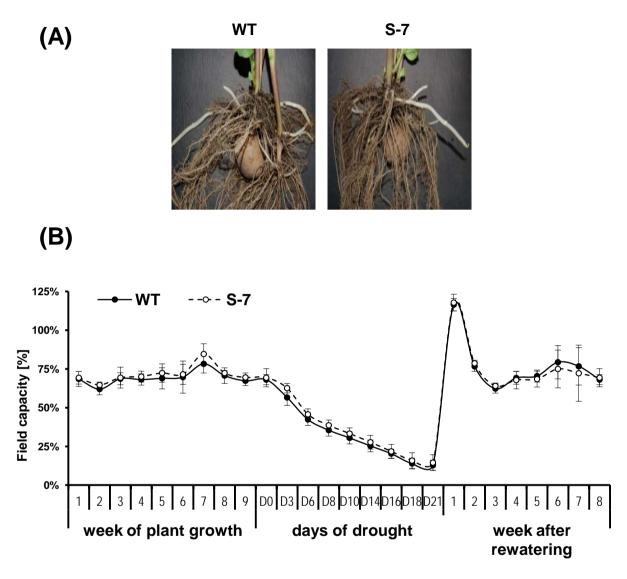
Figure A. Construction of transgenic plants.



(A) Structure of the T-DNA region from pROK2 carrying STANN1_His6x that was used for *Agrobacterium* -mediated transformation. LB – left border; RB – right border; NPTII – neomycin phosphotransferase II, CaMV – cauliflower mosaic virus 35S promoter; NOS – nopaline synthase terminator;

(B) Expression of STANN1_His6x protein in F1 transgenic potato lines. Proteins were isolated from leaves of WT and F1 transgenic lines S-2, S-3, S-7, S-83, S-91, S-97 and S-123 grown *in vitro*. His-tagged proteins were purified with Ni-NTA agarose, subjected to SDS_PAGE and blotting followed by detection with anti-His primary Ab. The band detected in WT represents *Arabidopsis* annexin ATANN1_His6x (molecular weight *ca* 36 kD) produced in *Escherichia coli* that was added before purification to the ground protein to STANN1_His6x easily dimerized hence the two bands were detected, the lower with molecular weight corresponding to monomer and the upper corresponding to dimer.

Figure B. Schematic characteristic of experimental drought.



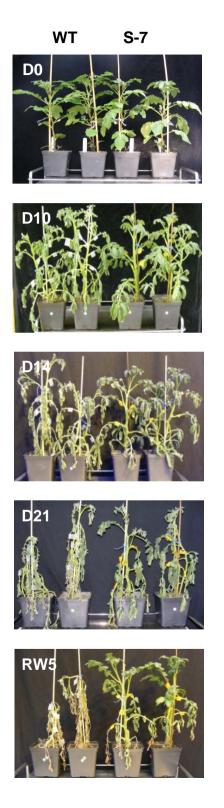
(A) Potato WT and S-7 plants after 8 week of growth at the phase of experimental drought implementation. Transgenesis has no impact on tuber development. Formation of stolon hooks and stolon swelling as well as first tubers are visible.

(B) Field capacity (FC) was normalized at the beginning of experiment and maintained at constant level (app. 65%); for control (well-irrigated plants) FC was maintained at this level throughout the whole experiment. For experimental drought FC was gradually lowered to 20% and kept at this level un till the end of drought. Rewatering was applied by full water saturation of the soil and after gravity draining of excess water FC was kept at the 65% untill the end of experiment.

Figure C. Multiple alignment of amino acid sequences of putative annexins from potato and selected annexins from human, Arabidopsis and cotton.

NNAS MQVILSOLTVIDIPGTEEAAATTLEKANG ESILUTALISSISMAGELSAAFTLEFAGE Ling LINELTIGE GHANNI MATL-K-YSOSYPÅED-DAGUETARS MANDELIISILAHESAGEKKINGAVELSYGEN-LLAUKUKSELSAAFTLEFAGE LLAUKELSKIPEKKLVAK 81 STANNI MATL-K-YSOSYPÅED-DAGUETARS MANDELIISILAHESAGEKKINGAVELSYGEN-LLAKILKELSKINGAVELSYGEN LLKILKELSKIPEKKLVAK 81 STANNI MATL-K-YSOSYPÅED-DEGUETARS MANDEAKKIISILAHESAGEKKINGAVELSYGEN LINEKUUSKINGAVELSK	3 3 T T T T	Domain 1	
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ANXA5 YLAETLYYAMK BAGTDDHTLIRVMVSRSEID-LFNIRKEFRKNFATSLYSMIKGDTSGDYKKALLLLCGEDD 320 GHANNI YFVEVLRDAINRRGTEEDHLTRVIATRAEVD-LKIIADEYQKRDSIPLGRAIAKDTRGDYESMLLALLGQEED 314 ATANNI YFVEVLRDAINRRGTEEDHLTRVITATEAED-LKVIGEEYQRRDSIPLGRAIAKDTRGDYESMLLALLGDA 317 STANNI YFVEVLRDAINRRGTEEDHLSRVIATRAEVD-LKIIANEYQKRDSIPLGRAIAKDTGGDYENMLVALLGDDA 314 STANN2 YFEKVLRLAIMK BGTDESSLTRVIVTRAETD-LKVIGEEYQRRDSIPLGRAIAKDTGGDYENMLVALLGDEE 314 STANN3.1 HFAEVVRASIVGTGTDENSLTRVIVTRAEVD-MELIKEKYYKRNSVTLESAISDDTSGDYKKTLLALIGHGNL 316 STANN3.2 HFAEVVRASIVGTGTDENSLTRAIVTRAEVD-MMKVRGEYFIANKTNLDSAVIGDTSGDYKKTLLLGAK 303 STANN3.3 HFAEVVRSTDGLGTNEDSLSRAIVTRAETD-MKVKGEYFIANKTNLDSAVIGDTS	ATANN1 STANN1 STANN2 STANN3.1 STANN3.2 STANN3.3 STANN4 STANN5	VNMTLAKQEAK-LVHEKIKDKHYNDEDVIRILSTRSKAQINATFNRYQDDHGEEILKSI EGDDDDKFLALLRSTIQLTRPEL VDLRLAKAESK-VLHEKISDKAYSDDEVIRILATRSKAQLNATLNHYKDEYGEDILKQI DEDEFVALLRATIKGLVYPEH VNMELASDEAK-ILHEKISDKADSDEFFIRILSIRSKTQLNATFNQYNDKFGNAINKDLRANP-KDQYLTLLRSAIKQLMEPEK VDPSFANEESA-ILRETIRTKQLDSDNFLLILSTRNVHQLRATFECYKQNYGFSIDQDMKSCG-KGLLESILKVVIWGIDSPEK VDPSTANEEAA-ILREAIRTKQLDHDNFLFILSTRSKCQLRATFECYKQNYGFSIDQDIKSCG-KGLLESILKVVIWGIDSPEK VDHSTANLEAS-KLREATRTKQLDSDELVILLSTRNIHQLKATFECYKQNYGFSIDQDINSCG-EGLLESILKVVIWGINSPEK VSDDLAKSEAK-IFVNAIKNANKKKLIDEEEEIVRILSTRSKLHLKAIYSHYKEITGNFLDEDLEGDLTMKQVVQCLCVPKA VDRASVDHDAKALYKAGEKKIGTDEKTFIRIFSERSRAHLAAVSSAYHSMYSRKLKKAVKSET-SGLFFALLTILQQAENPAT	239 242 239 241 243 244 245 230 242
ANXA5YLAETLYYAMK AGTDDHTLIRVMVSRSEID-LFNIRKEFRKNFATSLYSMIKGDTSGDYKKALLLLCGEDD320GHANN1YFVEVLRDAINRRGTEEDHLTRVIATRAEVD-LKIIADEYQKRDSIPLGRAIAKDTRGDYESMLLALLGQEED314ATANN1YFVEVLRDAINRRGTEEDHLTRVIATRAEVD-LKIIADEYQKRDSIPLGRAIAKDTRGDYESMLLALLGQEED317STANN1YFVEVLRDAINRRGTEEDHLSRVIATRAEVD-LKTIANEYQKRDSIPLGRAIAKDTRGDYESMLVALLGRDDA316STANN2YFEKVLRLAINK GTEEDHLSRVIATRAEVD-LKTIANEYQKRDSIPLGRAIAKDTGGDYEMLVALLGREDA316STANN3.1HFAEVVRASIVGTGTDESSLTRVVATRAEVD-MELIKEKYYKRNSVTLESAISDTSGDYKKFLMLLGAK303STANN3.2HFAEVVRASIVGTGTDESSLTRAIVTRAEVD-MMKVRGEYFIANKTNLDSAVIGDTSGDYMKFLMTLLGAK303STANN3.3HFAEVVRASIVGTGTDESSLTRAIVTRAEUD-MKVRGEYFIANKTSLDSAVIGDTS	ATANN1 STANN1 STANN2 STANN3.1 STANN3.2 STANN3.3 STANN4 STANN5 STANN8	VNMTLAKQEAK-LVHEKIKDKHYNDEDVIRILSTRSKAQINATFNRYQDDHGEEILKSI EGDDDDKFLALLRSTIQLTRPEL VDLRLAKAESK-VLHEKISDKAYSDDEVIRILATRSKAQLNATLNHYKDEYGEDILKQI DEDEFVALLRATIKGLVYPEH VNMELASDEAK-ILHEKISDKADSDEEFIRILSIRSKTQLNATFNQYNDKFGNAINKDLRANP-KDQYLTLLRSAIKCLMEPEK VDPSFANEESA-ILRETIRTKQLDSDNFLLILSTRNVHQLRATFECYKQNYGFSIDQDIKSCG-KGLLESILKVVIWGIDSPEK VDPSTANEEAA-ILREAIRTKQLDHDNFLFILSTRSCQLRATFECYKQNYGFSIDQDIKSCG-KGLLESILKVVIWGIDSPEK VDHSTANLEAS-KLREATRTKQLDSDELVILSTRNIHQLKATFECYKQNYGFSIDQDITNCG-EGLLESILKVVIWGINSPEK VSDDLAKSEAK-IFVNAIKNANKKKLIDEEEEIVRILSTRSKLHLKAIYSHYKEITGNFLDEDLEGDLTMKQVVQCLCVPKA VDRASVDHDAKALYKAGEKKIGTDEKTFIRIFSERSRAHLAAVSSAYHSMYSRLKKAVKSET-SGLFEFALLTILQQAENPAT INARVANSEAD-ILHNAISNKEFNNEEIVRILCTRSTTQLVATLNRYKDYYGSSIIKHLIDDTNDEDYKEYLLALRTTIRCINDPQK	239 242 239 241 243 244 245 230 242 249
GHANNIYFVEVLRDAINRRGTEEDHLTRVIATRAEVD-LKIIADEYQKRDSIPLGRAIAKDTRGDYESMLLALGQEED314ATANNIYFVDVLRSAINKTGTDEGALTRIVTTRAEID-LKVIGEEYQRRNSIPLEKAITKDTRGDYEKMLVALGEDDA317STANNIYFVEVLRDAINRRGTEEDHLSRVIATRAEVD-LKTIANEYQKRDSIPLGRAIAKDTGGDYEKMLVALGQEEE314STANN2YFEKVLRLAMKGFGTDEESLTRVVATRAEVD-MELIKEKYYKRNSVTLESAISDDTSGDYEKMLALIGHGNL316STANN3.1HFAEVVRASIVGTGTDENSLTRAIVTRAEVD-MELIKEKYYKRNSVTLESAISDDTSGDYEKMLLALIGHGNL317STANN3.2HFAEVVRASIVGTGTDENSLTRAIVTRAEVD-MKKVRGEYIANKTNLDSAVIGDTSGDYMKFIMTLGAK303STANN3.3HFAEVVKVSTDGLGTNEDSLSRAIVTRAEVD-MKKVRGEYIIANKTSLDSAVIGDTS	ATANN1 STANN1 STANN2 STANN3.1 STANN3.2 STANN3.3 STANN4 STANN5 STANN8	VNMTLAKQEAK-LVHEKIKDKHYNDEDVIRILSTRSKAQINATFNRYQDDHGEEILKSI EGDDDDKFLALLRSTIQLTRPEL VDLRLAKAESK-VLHEKISDKAYSDDEVIRILATRSKAQLNATLNHYKDEYGEDILKQI DEDEFVALLRATIKGLVPEH VNMELASDEAK-ILHEKISDKADSDEEFIRILSTRSKTQLNATFNQYNDKFGNAINKDLRANP-KDQYLTLLRSAIKGLMEPEK VDPSFANEESA-ILRETIRTKQLDSDNFLLILSTRNVHQLRATFECYKQNYGFSIDQDMKSCG-KGLLESILKVVIWGIDSPEK VDPSTANEEAA-ILREAIRTKQLDSDLVLILSTRNVHQLKATFECYKQNYGFSIDQDINSCG-KGLLESILKVVIWGIDSPEK VDHSTANLEAS-KLREATRTKQLDSDELVILSTRNIHQLKATFECYKQNYGFSIDQDINSCG-GGLLESILKVVIWGIDSPEK VSDLAKSEAK-IFVNAIKNANKKKLIDEEEEIVRILSTRSKLHLKAIYSHYKEITGNFLDEDLEGDLTMKQVVQLCVPKA VDRASVDHDAKALYKAGEKKIGTDEKTFIRIFSERSRAHLAAVSSAYHSMYSRKLKKAVKSET-SGLFFALLTILQCAENPAT INARVANSEAD-ILHNAISNKEFNNEEIVRIICTRSTTQLVATLNRYKDYYGSSIIKHLIDDTNDEDYKEYLLALRTTIRCINDPQK VVMTLARKEAN-ILHEKISDKAYNDEEIIRISTRSKAQLSATFNHYNDHHGHEIIKDLEADDDDDEYLKLLRAAIECLKTPEK	239 242 239 241 243 244 245 230 242 249
ATANN1YFVDVLRSAINKTGTDEGALTRIVTTRAEID-LKVIGEEYQRRNSIPLEKAITKDTRGDYEKMLVAL GEDDA317STANN1YFVEVLRDAINRRGTEEDHLSRVIATRAEVD-LKTIANEYQKRDSIPLGRAIAKDTGGDYENMLVALLGQEEE314STANN2YFEKVLRLAMK FGTDEESLTRVVATRAEVD-MELIKEKYYKRNSVTLESAISDDTSGDYEKMLLALIGHGNL316STANN3.1HFAEVVRASIVGTGTDENSLTRAIVTRAEVD-MMKVRGEYFIANKTNLDSAVIGDTSGDYMKFIMTLLGAK317STANN3.2HFAEVVRASIVGTGTDESLTRAIVTRAEVD-MMKVRGEYFIANKTNLDSAVIGDTSGDYMKFIMTLLGAK303STANN3.3HFAEVVKVSTDELGTDESLSRAIVTRAEVD-MMKVRGEYFIANKTSLDSAVIGDTSGDYMKFIMTLLGAK303STANN3.4HFAEVVKVSTDELGTNEDSLSRAIVTRAEID-MIKVKEEYLKMKDTALEYAVADDTSGHYREFIMTLLGANDSSL325STANN3.5HFAEVVKVSTDELGTNEDSLSRAIVTRAEID-MIKVKEEYLKMKDTALEYAVADDTSGHYREFIMTLLGANDSSL325STANN4YFSKILIASLR-LDESAKDSVTRVIVTRADDDDMKQIKEEFQSKYGTTLAAKLAEVANGSYKDFLLTI IAKSD316STANN5YFAKELHKAMK GLGTNDTTLIRIVATRAED-LKEIKELYYKRNSVTLDHAITNHTCGNYKAFLLTLLGNEN319STANN9YFEKVLRLAIKKLGTDEWDLTRVVATRAEVD-MERIKEEYHRRNSVTLDRAIAADTSGDYEKMLLALIGHGDA319	ATANN1 STANN1 STANN2 STANN3.1 STANN3.2 STANN3.3 STANN4 STANN5 STANN8 STANN9	VNMTLAKQEAK-LVHEKIKDKHYNDEDVIRILSTRSKAQINATFNRYQDDHGEEILKSI EGDDDDKFLALLRSTIQLTRPEL VDLRLAKAESK-VLHEKISDKAYSDDEVIRILATRSKAQLNATLNHYKDEYGEDILKQI DEDEFVALLRATIKGLVYPEH VNMELASDEAK-ILHEKISDKADSDEEFIRILSIRSKTQLNATFNQYNDKFGNAINKDLRANP-KDQYLTLLRSAIKCLMEPEK VDPSFANEESA-ILRETIRTKQLDSDNFLLILSTRNVHQLRATFECYKQNYGFSIDQDIKSCG-KGLLESILKVVIWGIDSPEK VDPSTANEEAA-ILREAIRTKQLDHDNFLFILSTRSSCQLRATFECYKQNYGFSIDQDIKSCG-KGLLESILKVVIWGIDSPEK VDHSTANLEAS-KLREATRTKQLDSDELVILSTRNIHQLKATFECYKQNYGFSIDQDIKSCG-KGLLESILKVVIWGINSPEK VSDDLAKSEAK-IFVNAIKNANKKKLIDEEEEIVRILSTRSKLHLKAIYSHYKEITGNFLDEDLEGDLTMKQVVQCLCVPKA VDRASVDHDAKALYKAGEKKIGTDEKTFIRIFSERSRAHLAAVSSAYHSMYSRLKKAVKSET-SGLFEFALLTILQQAENPAT INARVANSEAD-ILHNAISNKEFNNEEIVRIICTRSTTQLVATLNRYKDYYGSSIIKHLIDDTNDEDYKEYLLALRTTIRCINDPQK VNMTLARKEAN-ILHEKISDKAYNDEEIRIISTRSKAQLSATFNHYNDHHGHEIIKDLEADDDDDEYLKLLRAAIECLKTPEK	239 242 239 241 243 244 245 230 242 249 244
STANN1YFVEVLRDAINRRGTEDHLSRVIATRAEVD-LKTIANEYQKRDSIPLGRAIAKDTGGDYENMLVALLGQEEE314STANN2YFEKVLRLAMKGTGTDEESLTRVVATRAEVD-MELIKEKYYKRNSVTLESAISDDTSGDYEKMLLALIGHGNL316STANN3.1HFAEVVRASIVGTGTDENSLTRAIVTRAEVD-MMKVRGEYFIANKTNLDSAVIGDTSGDYMKFLMTLLGAK303STANN3.2HFAEVVRASIVGTGTDENSLTRAIVTRAEVD-MMKVRGEYFIANKTNLDSAVIGDTSGDYMKFLMTLLGAK303STANN3.3HFAEVVRVSTDGLGTNEDSLSRAIVTRAEID-MIKVRGEYFIANKTSLDSAVIGDTSGPYMKFLMTLLGAK303STANN3.4YFSKILIASLR-LDESAKDSVTRVIVTRAEDD-MKKVEGYKKMDTALEYAVADDTSCHYREFLMTLLGANDSSL325STANN4YFSKILIASLR-LDESAKDSVTRVIVTRADDDDMKQIKEEFQSKYGTTLAAKLAEVANGSYKDFLLTIIAKSD316STANN5YFAKELHKAMKGLGTNDTTLIRIVATRAETD-MQYIKAEYQKKHKSLNDAVHSBTSGDYRTFLLISSGACS316STANN8YYEKVIRYAINESGTDEESLTRVIVTRAEKD-LKEIKELYYKRNSVTLDHAITNHTCGNYKAFLLTLLGNEN319STANN9YFEKVLRLAIKKLGTDEWDLTRVVATRAEVD-MERIKEEYHRRNSVTLDRAIAADTSGDYEKMLLALIGHGDA319	ATANN1 STANN1 STANN2 STANN3.1 STANN3.2 STANN3.3 STANN5 STANN5 STANN8 STANN9	VNMTLAKQEAK-LVHEKIKDKHYNDEDVIRILSTRSKAQINATFNRYQDDHGEEILKSI EGDDDDKFLALLRSTIQLTRPEL VDLRLAKAESK-VLHEKISDKADSDEFIRILATRSKAQLNATLNHYKDEYGEDILKQI DEDEFVALLRATIKGLVPEH VMMELASDEAK-ILHEKISDKADSDEFIRILSTRNVHQLRATFECYKQNYGFSIDQDMKSCG-KGLLESILKVVIWGIDSPEK VDPSFANEESA-ILREAIRTKQLDDNFLFILSTRSSCQLRATFECYKQNYGFSIDQDIKSCG-KGLLESILKVVIWGIDSPEK VDPSTANEEAA-ILREAIRTKQLDDNFLFILSTRSSCQLRATFECYKQNYGFSIDQDITNCG-EGLLESILKVVIWGINSPEK VDHSTANLEAS-KLREATRTKQLDSDELVLILSTRNIHQLKATFECYKQNYGFSIDQDITNCG-EGLLESILKVVIWGINSPEK VDDSTANEEAA-IFVNAIKNANKKKLIDEEEEIVRILSTRSKLHLKAIYSHYKEITGNFLDEDLEGDLTMKQVVQCLCVPKA VDRASVDHDAKALYKAGEKKIGTDEKTFIRIFIRIFSESRAHLAAVSSAYHSMYSRKLKKAVKSET-SGLFEFALLTILQAENPAT INARVANSEAD-ILHNAISNKEFNNEEIVRIICTRSTTQLVATLNRYKDYGSSIIKHLIDDTNDEDYKEYLLALRTTIRGINDPQK VNMTLARKEAN-ILHEKISDKAYNDEEIRRIISTRSKAQLSATFNHYNDHHGEIKLDDDDDEYLKLLRAAIECLKTPEK VDMAIN 4 VLAETLYYAMKEAGIDDHTLIRVMVSRSLD-LFNIRKEFRKNFATSLYSMIKKALLLICGEDD	239 242 239 241 243 244 245 230 242 249 244 320
STANN2YFEKULRAMK FGTDEESLTRVVATRAEVD-MELIKEKYYKRNSVTLESAISDDTSGDYEKMLLALIGHGNL316STANN3.1HFAEVVRASIVGTGTDENSLTRAIVTRAEVD-MMKVRGEYFIANKTNLDSAVIGDTSGDYMKFLMTLLGAK317STANN3.2HFAEVVRASIVGTGTDENSLTRAIVTRAEVD-MMKVRGEYFIANKTNLDSAVIGDTSGDYMKFLMTLLGAK303STANN3.3HFAEVVKVSTDCLGTNEDSLSRAIVTRAEID-MIKVRGEYFIANKTSLDSAVIGDTSGDYMKFLMTLLGANDSSL325STANN4YFSKILIASLR-LDESAKDSVTRVIVTRADDDDMKQIKEEFQSKYGTTLAAKIAEVANGSYKDFLLTIIAKSD316STANN5YFAKELHKAMK SLGTNDTLIRIVATRAEDD-LKEIKELYYKRNSVTLDHAITNHTCONYKAFLLTLLGNEN319STANN9YFEKVLRLAIKKLGTDESLTRVVATRAEVD-MERIKEEYHRRNSVTLDHAITNHTCONYKAFLLLLGHGDA319	ATANN1 STANN2 STANN3.1 STANN3.2 STANN3.3 STANN4 STANN4 STANN5 STANN8 STANN9 ANXA5 GHANN1	VNMTLAKQEAK-LVHEKIKDKHYNDEDVIRILSTRSKAQINATFNRYQDDHGEEILKSI EGDDDDKFLALLRSTIQLTRPEL VDLRLAKAESK-VLHEKISDKAYSDDEVIRILATRSKAQLNATLNHYKDEYGEDILKQI DEDEFVALLRATIKGLVPEH VNMELASDEAK-ILHEKISDKADSDEEFIRILSIRSKTQLNATTNQYNDKFGNAINKDLRANP-KDQYLTLLRSAIKGLMEPEK VDPSFANEESA-ILRETIRTKQLDSDNFLLILSTRNVHQLRATFECYKQNYGFSIDQDMKSCG-KGLLESILKVVIWGIDSPEK VDPSFANEESA-ILREAIRTKQLDSDHLVILSTRNIHQLKATFECYKQNYGFSIDQDINSCG-KGLLESILKVVIWGIDSPEK VDHSTANLEAS-KLREATRTKQLDSDELVILISTRNIHQLKATFECYKQNYGFSIDQDINSCG-KGLLESILKVVIWGIDSPEK VDHSTANLEAS-KLREATRTKQLDSDELVILSTRNIHQLKATFECYKQNYGFSIDQDINCG-EGLLESILKVVIWGIDSPEK VDHSTANLEAS-KLREATRTKQLDSDELVILSTRNIHQLKATFECYKQNYGFSIDQDINCG-EGLLESILKVVIWGIDSPEK VSDDLAKSEAK-IFVNAIKNANKKKLIDEEEEIVRILSTRSKLHLKAIYSHYKEITGNFLDEDLEGDLTMKQVVQCLCVPKA VDRASVDHDAKALYKAGEKKIGTDEKTFIRIFSESRAHLAAVSSAYHSMYSRKLKKAVKSET-SGLFEFALLTILQCAENPAT INARVANSEAD-ILHNAISNKEFNNEEIVRIICTRSTTQLVATLNRYKVYGSSIIKHLIDDTNDEDYKEYLLALRTTIRGINDPQK VNMTLARKEAN-ILHEKISDKAYNDEEIIRIISTRSKAQLSATFNHYNDHHGHEIIKDLEADDDDEYLKLLRAAIEGLKTPEK VLAETLYYAMKGAGTDDHTLIRVWYSRSID-LENIRKEFKNFATSLYSMIKGDTSGDYKKAILLICGEDD YFVEVLRDAINRRCTEDHLTRVIATRAEVD-LKIIADEYQKRDSIPLGRAIAKATRGDYESMLLAILGQEED	239 242 239 241 243 244 245 230 242 249 244 320 314
STANN3.1HFAEVVRASIVGIGTDENSLTRAIVTRAEVD-MMKVRGEYFIANKTNLDSAVIGDTSGDYMKFLMTLLGAK317STANN3.2HFAEVVRASIVGFGTDEDSLTRAIVTRAEVD-MMKVRGEYFIANKTSLDSAVIGDTSGDYMKFLMTLLGARDSSL303STANN3.3HFAEVVKVSTDELGTNEDSLSRAIVTRAEID-MIKVREEYLKMKDTALEYAVADDTSCHYREFLMTLLGANDSSL325STANN4YFSKILIASLR-LDESAKDSVTRVIVTRADDDDMKQIKEEFQSKYGTTLAAKIAEVANGSYKDFLLTIIAKSD316STANN5YFAKELHKAMKBLGTDTTLIRIVATREEID-MQYIKAEYQKKHKKSLNDAVHSETSGDYRKFLLISSGACS316STANN8YYEKVIRYAINESGTDEESLTRVIVTRAEKD-LKEIKELYYKRNSVTLDHAITNHTCGNYKAFLLTLLGNEN319STANN9YFEKVLRLAIKKLGTDEWDLTRVVATRAEVD-MERIKEEYHRRNSVTLDRAIAADTSGDYEKMLLALIGHGDA317	ATANN1 STANN1 STANN2 STANN3.1 STANN3.2 STANN3.3 STANN4 STANN5 STANN8 STANN8 STANN9 ANXA5 GHANN1 ATANN1	VNMTLAKQEAK-LVHEKIKDKHYNDEDVIRILSTRSKAQINATFNRYQDDHGEEILKSI EGDDDDKFLALLRSTIQLTRPEL VDLRLAKAESK-VLHEKISDKAYSDDEVIRILATRSKAQLNATLNHYKDEYGEDILKQI DEDEFVALLRATIKGLVPEH VNMELASDEAK-ILHEKISDKADSDEEFIRILSISKTQLNATTNQYNDKFGNAINKDLRANP-KDQYLTLLRSAIKGLMEPEK VDPSFANEESA-ILRETIRTKQLDSDNFLLILSTRNVHQLRATFECYKQNYGFSIDQDMKSCG-KGLLESILKVVIWGIDSPEK VDPSFANEESA-ILREAIRTKQLDSDLVLILSTRNVHQLKATFECYKQNYGFSIDQDINSCG-KGLLESILKVVIWGIDSPEK VDHSTANLEAS-KLREATRTKQLDSDELVLILSTRNIHQLKATFECYKQNYGFSIDQDINCG-EGLLESILKVVIWGIDSPEK VSDLAKSEAK-IFVNAIKNANKKKLIDEEEEIVRILSTRSKLHLKAIYSHYKEITGNFLDEDLEGDLTMKQVVQLCVPKA VDRASVDHDAKALYKAGEKKIGTDEKTFIRIFSERSRAHLAAVSSAYHSMYSRKLKKAVKSBT-SGLFEFALLTILQCAENPAT INARVANSEAD-ILHNAISNKEFNNEEIVRIICTRSTTQLVATLNRYKDYGSSIIKHLDDTNDEDYKEVLLALRTIRGINDPQK VNMTLARKEAN-ILHEKISDKAYNDEEIIRISTRSKAQLSAFFNHYNDHHGHEIIKDLEADDDDDEYLKLLRAAIECLKTPEK VLETIYYAMKGACDDHTLIRVMYRSEID-LFNIRKEFKNFATSLYSMKKGTSGDYKKALLLCGEDD YFVEVLRDAINRRGT EEDHLTRVIATRAEVD-LKIIADEYQKRDSIPLGRAIAKDTRGDYESMLLAILGQEED	239 242 239 241 243 244 245 230 242 249 244 320 314 317
STANN3.2 HFAEVVRASIVGFGTDEDSLTRAIVTRAEVD-MMKVRGEYIIANKTSLDSAVIGDTS	ATANN1 STANN1 STANN2 STANN3.1 STANN3.2 STANN3.3 STANN4 STANN5 STANN8 STANN8 STANN9 ANXA5 GHANN1 ATANN1 STANN1	VNMTLAKQEAK-LVHEKIKDKHYNDEDVIRILSTRSKAQINATFNRYQDDHGEEILKSI EGDDDDKFLALLRSTIQLTRPEL VDLRLAKAESK-VLHEKISDKAYSDDEVIRILATRSKAQLNATLNHYKDEYGEDILKQI DDEDEFVALLRATIKGLVYPEH VNMELASDEAK-ILHEKISDKADSDEEFIRILSIRSKTQLNATRNQYNDKFGNAINKDLRANP-KDQYLTLLRSAIKQLMEPEK VDPSFANEESA-ILRETIRTKQLDSDNFLLILSTRNVHQLRATFECYKQNYGFSIDQDMKSCG-KGLLESILKVVIWQIDSPEK VDPSTANEEAA-ILREAIRTKQLDSDNFLVILSTRNIHQLKATFECYKQNYGFSIDQDIKSCG-KGLLESILKVVIWQIDSPEK VDDSTANLEAS-KLREATRTKQLDSDNFLVILSTRNIHQLKATFECYKQNYGFSIDQDITNCG-EGLLESILKVVIWQIDSPEK VSDLAKSEAK-IFVNAIKNANKKLIDEEENIVRIJSTRSKLHLKAIYSHYKNITGNFLDEDLEGDLTMKQVVQCLCVPKA VDRASVDHDAKALYKAGEKKIGTDEKTFIRIFSERSRAHLAAVSSAYHSMYSRKLKKAVKSET-SGLFFALLTILQQAENPAT INARVANSEAD-ILHNAISDKAYNDENIRIISTRSKLALKAYSAYHSMYSRKLKKAVKSET-SGLFFALLTILQQAENPAT INARVANSEAD-ILHNAISDKAYNDENIRIISTRSKAQLSATFNHYNDHHGHEIIKDLEADDDDDEYLKLLRAAIEGLKTPEK VLASTYDHDAKALYKAGEKKIGTDEKTFIRISTRSKAQLSATFNHYNDHHGHEIIKDLEADDDDDEYLKLLRAAIEGLKTPEK VDMSTANLEAS-LICHTYTRAEUD-LKTIANEYQKRDSIPLGRAIAKTGDYESMLLAILGQEED YFVDVLRSAINKTGTDEGALTRVIATRAEVD-LKTIADEYQKRDSIPLGRAIAKTGDYESMLLAILGQEED YFVDVLRSAINKTGTDEGALSRVIATRAEVD-LKTIANEYQKRDSIPLGRAIAKTGGDYESMLVAILGQEED YFVEVLRDAINRGT EEDHLSRVIATRAEVD-LKTIANEYQKRDSIPLGRAIAKTGGDYESMLVAILGQEED YFVEVLRDAINRGT EEDHLSRVIATRAEVD-LKTIANEYQKRDSIPLGRAIAKTGGDYESMLVAILGQEED YFVEVLRDAINRGT EEDHLSRVIATRAEVD-LKTIANEYQKRDSIPLGRAIAKTGGDYESMLVAILGQEED YFVEVLRDAINRGT EEDHLSRVIATRAEVD-LKTIANEYQKRDSIPLGRAIAKTGGDYESMLVAILGQEED	239 242 239 241 243 244 245 230 242 249 244 320 314 317 314
STANN3.3 HFAEVVKVSTDCLGTNEDSLSRAIVTRAEID-MIKVKEEYLKMKDTALEYAVADDTSCHYREFIMTLLGANDSSL 325 STANN4 YFSKILIASLR-L DESAKDSVTRVIVTRADDDDMKQIKEEFQSKYGTTLAAKIAEVANGSYKDFLLTIIAKSD 316 STANN5 YFAKELHKAMKGLGTNDTTLIRIVATRTEID-MQYIKAEYQKKHKKSLNDAVHSETSGDYRTFLLISSGACS 316 STANN8 YYEKVIRYAINESGTDEESLTRVIVTRAEKD-LKEIKELYYKRNSVTLDHAITNHTCGNYKAFLLTLLGNEN 319 STANN9 YFEKVLRLAIKKLGT MARINESGTDEESLTRVIVATRAEVD-MERIKEEYHRRNSVTLDRAIAADTSGDYEKMLLALIGHGDA	ATANN1 STANN1 STANN2 STANN3.1 STANN3.2 STANN4 STANN5 STANN8 STANN8 STANN9 ANXA5 GHANN1 ATANN1 STANN1 STANN2	VNMTLAKQEAK-LVHEKIKDKHYNDEDVIRILSTRSKAQINATFNRYQDDHGEEILKSI EGDDDDKFLALLRSTIQLTRPEL VDLRLAKAESK-VLHEKISDKADSDEFIRILATRSKAQLNATLNHYKDEYGEDILKQI DEDEFVALLRATIKGLVPEH VNMELASDEAK-ILHEKISDKADSDEFIRILSTRSKTQLNATINQYNDKFGNAINKDLRANP-KDQYLTLLRSAIKGLMEPEK VDPSFANEESA-ILRETIRTKQLDSDNFLLILSTRNVHQLRATFECYKQNYGFSIDQDMKSCG-KGLLESILKVVIWCIDSPEK VDPSFANEESA-ILREAIRTKQLDSDNFLILSTRNVHQLRATFECYKQNYGFSIDQDIKSCG-KGLLESILKVVIWCIDSPEK VDPSTANEESA-ILREAIRTKQLDSDELVLILSTRNIHQLKATFECYKQNYGFSIDQDINCG-EGLLESILKVVIWCIDSPEK VDHSTANLEAS-KLREATRTKQLDSDELVLILSTRNIHQLKATFECYKQNYGFSIDQDINCG-EGLLESILKVVIWCIDSPEK VDHSTANLEAS-KLREATRTKQLDDDELVILSTRNIHQLKATFECYKQNYGFSIDQDINCG-EGLLESILKVVIWCINSPEK VSDLAKSEAK-IFVNAIKNANKKKLIDEEEEIVRILSTRSKLHLKAIYSHYKEITGNFLDEDLEGDLTMKQVVQCLCVPKA VDRASVDHDAKALYKAGEKKIGTDEKTFIRIFSESRAHLAAVSSAYHSMYSRKLKKAVKSET-SGLFEFALLTILQQAENPAT INARVANSEAD-ILHNAISNKEFNNEEIVRIICTRSTTQLVATLNRYKDYSGSIIKHLIDDTNDEDYKEYLLALRTTIRCINDPQK VNMTLARKEAN-ILHEKISDKAYNDEEIIRISTRSKAQLSATFNHYNDHHGHEIIKDLEADDDDDYKKLLRAAIECLKTPEK DOMAIN 4 YLAETLYYAMKEACHDDHTLIRVMYSRSEID-LFNIRKEFRKNFATSLYSMIKKGDTSGDYKKALLLICGEDD YFVEVLRDAINREGT EEDHLTRVIATRAEVD-LKIIADEYQKRDSIPLERAIAKTEGDYESMLLAILGQEED YFVEVLRDAINREGT EEDHLSRVIATRAEVD-LKTIANEYQKRDSIPLEKAITKDTRGDYEKMLVAILGEDDA YFEVLRLAMKEFGDEESLTRVVATRAEVD-LKTIANEYQKRDSIPLERAIANTGGDYEMMLVAILGQEE YFEVLRLAMKKFGDEESLTRVVATRAEVD-MELIKKYYKRNSTLESAISDDTSGDYEMMLLAILGGED	239 242 239 241 243 244 245 230 242 249 244 320 314 317 314 316
STANN4 YFSKILIASLR-L DESAKDSVTRVIVTRADDDDMKQIKEEFQSKYGTTLAAKIAEVANCSYKDFLLTIIAKSD 316 STANN5 YFAKELHKAMKGLGUNDTTLIRIVATREID-MQYIKAEYQKKHKKSLNDAVHSETSGDYRTFLLISSGACS 316 STANN8 YYEKVIRYAINESGUDESLTRVIVTRAEKD-LKEIKELYYKRNSVTLDHAITNHTCGNYKAFLLTLLGNEN 319 STANN9 YFEKVLRLAIKKLGUDEWDLTRVVATRAEVD-MERIKEEYHRRNSVTLDRAIAADTSGDYEKMLLALIGHGDA 319	ATANN1 STANN1 STANN2 STANN3.1 STANN3.2 STANN4 STANN5 STANN8 STANN8 STANN9 ANXA5 GHANN1 ATANN1 STANN1 STANN1 STANN2 STANN3.1	VNMTLAKQEAK-LVHEKIKDKHYNDEDVIRILSTRSKAQINATFNRYQDDHGEEILKSI EGDDDDKFLALLRSTIQLTRPEL VDLRLAKAESK-VLHEKISDKADSDEFIRILATRSKAQLNATLNHYKDEYGEDILKQI DEDEFVALLRATIKGLVPEH VNMELASDEAK-ILHEKISDKADSDEFIRILSTRNVHQLRATFECYKQNYGFSIDQDMKSCG-KGLLESILKVVIWGIDSPEK VDPSFANEESA-ILRETIRTKQLDSDNFLLILSTRNVHQLRATFECYKQNYGFSIDQDMKSCG-KGLLESILKVVIWGIDSPEK VDPSFANEESA-ILREAIRTKQLDSDNFLILSTRNVHQLRATFECYKQNYGFSIDQDINSCG-KGLLESILKVVIWGIDSPEK VDPSTANEESA-ILREAIRTKQLDSDELVLILSTRNIHQLKATFECYKQNYGFSIDQDINCG-EGLLESILKVVIWGINSPEK VDHSTANLEAS-KLREATRTKQLDSDELVLILSTRNIHQLKATFECYKQNYGFSIDQDINCG-EGLLESILKVVIWGINSPEK VDRSVDHDAKALYKAGEKKIGTDEKTFIRIFSESRAHLAAVSSAYHSMYSRKLKKAVKSET-SGLFEFALLTILQQAENPAT INARVANSEAD-ILHNAISNKEFNNEEIVRIICTRSTTQLVATLNRYKDYYGSSIIKHLIDDTNDEDYKEYLLALRTTIRGINDPQK VNMTLARKEAN-ILHEKISDKAYNDEEIIRISTRSKAQLSATFNHYNDHHGHEIIKDICGEDD YLAETLYYAMKEAG DDHTLIRVMYSSEID-LFNIKKEFRKNFATSLYSMIKGDTSGDYKKALLLCGEDD YFVEVLRDAINRGT EEDHLTRVIATRAEVD-LKIIADEYQKRDSIPLGRAIAKDTRGDYESMLLALGQEED YFVEVLRDAINRRGT EEDHLSRVIATRAEVD-LKIIADEYQKRDSIPLGRAIAKTGGDYENMLVALGGDDA YFVEVLRDAINRRGT EEDHLSRVIATRAEVD-MELIKKYYKRNSVTLESAISDDTSGDYEKMLLALGGEE YFVEVLRLAMKEGT DEGSLTRVIATRAEVD-MELIKKYYKRNSVTLESAISDDTSGDYEMMLALGGEE YFVEVLRAAINKFGT DEGSLTRVIATRAEVD-MELIKKYYKRNSVTLESAISDDTSGDYEMMLALGGEE YFVEVLRAAINKFGT DEGSLTRVIATRAEVD-MELIKKYYKRNSVTLESAISDDTSGDYEMMLALGGEE YFFWLRAAKSFGT DESLTRVIATRAEVD-MELIKKYYKRNSVTLESAISDDTSGDYEMMLALGGEE YFFWLRAAKSFGT DESLTRVIATRAEVD-MELIKKYYKRNSVTLESAISDDTSGDYEMMLALGGEE YFFWLRAAKSFGT DESLTRVIATRAEVD-MELIKEYYKRNSVTLESAISDDTSGDYEMMLALGGEE YFFWLRAAKSFGT DESLTRVIATRAEVD-MELIKEYYKRNSVTLESAISDDTSGDYEMMLALGGEE HFAEVVRASIVGIGT DENSLTRAIVTRAEVD-MKKYGEYFIANKTNLDSAVIGDYSGDYEMLIALGGAK	239 242 239 241 243 244 245 230 242 249 244 320 314 317 314 316 317
STANN5 YFAKELHKAMK <mark>E</mark> LGTNDTTLI <i>RI</i> VATRTEID-MQYIKAEYQKKHKKSLNDA <mark>VHSBTSGDYRTFLLIS</mark> SGACS 316 STANN8 YYEKVIRYAINESGTDEESLTRVIVTRAEKD-LKEIKELYYKRNSVTLDHA <mark>ITNHTCGNYKAFLLTL</mark> LGNEN 319 STANN9 YFEKVLRLAIKKLGTDEWDLTRVVATRAEVD-MERIKEEYHRRNSVTLDRA <mark>IAADTSGDYEKMLLAL</mark> IGHGDA	ATANN1 STANN2 STANN3.1 STANN3.2 STANN3.3 STANN4 STANN4 STANN5 STANN8 STANN9 ANXA5 GHANN1 ATANN1 STANN1 STANN1 STANN1 STANN3.1	VNMTLAKQEAK-LVHEKIKDKHYNDEDVIRILSTRSKAQINATFNRYQDDHGEEILKSI EGDDDDKFLALLRSTIQLTRPEL VDLRLAKAESK-VLHEKISDKAYSDDEVIRILATRSKAQLNATLNHYKDEYGEDILKQI DEDEFVALLRATIKGLVPEH VNMELASDEAK-ILHEKISDKADSDEEFIRILSIRSKTQLNATTNQYNDKFGNAINKDLRANP-KDQYLTLLRSAIKCLMEPEK VDPSFANEESA-ILRETIRTKQLDSDNFLLILSTRNVHQLRATFECYKQNYGFSIDQDMKSCG-KGLLESILKVVIWQIDSPEK VDPSFANEESA-ILREAIRTKQLDSDLVLILSTRNIHQLKATFECYKQNYGFSIDQDINSCG-KGLLESILKVVIWQIDSPEK VDPSTANLEAS-KLREATRTKQLDSDELVLILSTRNIHQLKATFECYKQNYGFSIDQDINCG-EGLLESILKVVIWQIDSPEK VSDLAKSEAK-IFVNAIKNANKKKLIDEEEEIVRILSTRSKLHLKAIYSHYKEITGNFLDEDLEGDLTMKQVVQLCVPKA VDRASVDHDAKALYKAGEKKIGTDEKTFIRIFSERSRAHLAAVSSAYHSMYSRKLKKAVKSET-SGLFEFALLTILQCAENPAT INARVANSEAD-ILHNAISNKEFNNEEIVRIICTRSTTQLVATLNRYKDYGSSIIKHLDDTNDEDYKEVLLALRTTIRCINDPQK VNMTLARKEAN-ILHEKISDKAYNDEEIIRIISTRSKAQLSATFNHYNDHHGHEIIKDLEADDDDDEYLKLLRAAIECLKTPEK 	239 242 239 241 243 244 245 230 242 249 244 310 314 317 314 316 317 303
STANN8 YYEKVIRYAINES <mark>GI</mark> DEESLTRVIVTRAEKD-LKEIKELYYKRNSVTLDHA <mark>ITNHTCGNYKAFLLTL</mark> LGNEN 319 STANN9 YFEKVLRLAIKKL <mark>GI</mark> DEWDLTRVVATRAEVD-MERIKEEYHRRNSVTLDRA <mark>IAADTSGDYEKMLLAL</mark> IGHGDA	ATANN1 STANN1 STANN3.1 STANN3.2 STANN3.3 STANN4 STANN4 STANN8 STANN8 ANXA5 GHANN1 ATANN1 STANN1 STANN1 STANN3.1 STANN3.2 STANN3.3	VNMTLAKQEAK-LVHEKIKDKHYNDEDVIRILSTRSKAQINATFNRYQDDHGEEILKSI EGDDDDKFLALLRSTIQLTRPEL VDLRLAKAESK-VLHEKISDKAYSDDEVIRILATRSKAQLNATLNHYKDEYGEDILKQI DEDEFVALLRATIKGLVYPEH VNMELASDEAK-ILHEKISDKADSDEEFIRILSTRSKTQLNATTNQYNDKFGNAINKDLRANP-KDQYLTLLRSAIKGLMEPEK VDPSFANEESA-ILRETIRTKQLDSDNFLLILSTRNVHQLRATFECYKQNYGFSIDQDMKSCG-KGLLESILKVVIWGIDSPEK VDPSFANEESA-ILREAIRTKQLDSDNFLFILSTRSSCQLRATFECYKQNYGFSIDQDINSCG-KGLLESILKVVIWGIDSPEK VDPSTANLEAS-KLREATRTKQLDSDEIVILSTRNIHQLKATFECYKQNYGFSIDQDINSCG-KGLLESILKVVIWGIDSPEK VDDSTANLEAS-KLREATRTKQLDSDEIVILSTRNIHQLKATFECYKQNYGFSIDQDINCG-EGLLESILKVVIWGIDSPEK VDDSTANLEAS-KLREATRTKQLDSDEIVILSTRNIHQLKATFECYKQNYGFSIDQDINCG-EGLLESILKVVIWGIDSPEK VDDLAKSEAK-IFVNAIKNANKKKLIDEEEEIVRILSTRSKLHLKAIYSHYKEITGNFLDEDLEGDLTMKQVVQCLCVPKA VDRASVDHDAKALYKAGEKKIGTDEKTFIRIFSERSRAHLAAVSSAYHSMYSRKLKKAVKSET-SGLFEFALLTILQQAENPAT INARVANSEAD-ILHNAISDKEFNNEEIVRIICTRSTTQLVATINRYKDYGSSIIKHLIDDTNDEDYKEYLLALRTTIRGINDPQK VNMTLARKEAN-ILHEKISDKAYNDEEIIRIISTRSKAQLSATFNHYNDHGBEIIKDEEDLEGDL 	239 242 239 241 243 244 245 230 242 249 244 320 314 317 314 316 317 303 325
STANN9 YFEKVLRLAIKKL <mark>GT</mark> DEWDLTRVVATRAEVD-MERIKEEYHRRNSVTLDRA <mark>IAADTSGDYEKMLLAL</mark> IGHGDA	ATANN1 STANN1 STANN3.1 STANN3.2 STANN3.3 STANN4 STANN5 STANN8 STANN8 STANN9 ANXA5 GHANN1 ATANN1 STANN1 STANN1 STANN3.1 STANN3.2 STANN3.3 STANN4	VNMTLAKQEAK-LVHEKIKDKHYNDEDVIRILSTRSKAQINATFNRYQDDHGEEILKSI EGDDDDKFLALLRSTIQLTRPEL VDLRLAKAESK-VLHEKISDKAYSDDEVIRILATRSKAQLNATLNHYKDEYGEDILKQI DEDEFVALLRATIKGLVPEH VNMELASDEAK-ILHEKISDKADSDEEFIRILSISKTQLNATTNQYNDKFGNAINKDLRANP-KDQYLTLLRSAIKCLMEPEK VDPSFANEESA-ILRETIRTKQLDSDNFLLILSTRNVHQLRATFECYKQNYGFSIDQDMKSCG-KGLLESILKVVIWQIDSPEK VDPSFANEESA-ILREAIRTKQLDSDLVLILSTRNVHQLRATFECYKQNYGFSIDQDINSCG-KGLLESILKVVIWQIDSPEK VDDSTANLEAS-KLREATRTKQLDSDELVLILSTRNIHQLKATFECYKQNYGFSIDQDINCG-EGLLESILKVVIWQIDSPEK VSDLAKSEAK-IFVNAIKNANKKKLIDEEEEIVRILSTRSKLHLKAIYSHYKEITGNFLDEDLEGDLTMKQVVQLCVPKA VDRASVDHDAKALYKAGEKKIGTDEKTFIRIFSERSRAHLAAVSSAYHSMYSRKLKKAVKSET-SGLFEFALLTILQCAENPAT INARVANSEAD-ILHNAISDKAYNDEEIVRIICTRSTTQLVATLNRYKDYGSSIIKHLIDDTNDEDYKEVILALRTTIRGINDPQK VNMTLARKEAN-ILHEKISDKAYNDEEIIRIISTRSKAQLSATFNHYNDHHGEIIKDEADDDDDEYLKLLRAAIECLKTPEK VDHSTANLEAS-KLREAT	239 242 239 241 243 244 245 230 242 249 244 320 314 317 314 316 317 303 325 316
	ATANN1 STANN1 STANN3 STANN3.1 STANN3.2 STANN3.3 STANN4 STANN5 STANN8 STANN8 STANN9 ANXA5 GHANN1 ATANN1 STANN1 STANN1 STANN3.2 STANN3.3 STANN4 STANN5	VNMTLAKQEAK-LVHEKIKDKHYNDEDVIRILSTRSKAQINATFNRYQDDHGEEILKSI EGDDDDKFLALLRSTIQLTRPEL VDLRLAKAESK-VLHEKISDKAYSDDEVIRILATRSKAQLNATLNHYKDEYGEDILKQI DDEDEFVALLRATIKGLVPPEH VNMELASDEAK-ILHEKISDKADSDEEFIRILSTRSKTQLNATRNQYNDKFGNAINKDLRANP-KDQYLTLLRSAIKCLMEPEK VDPSFANEESA-ILRETIRTKQLDSDNFLLILSTRNVHQLRATFECYKQNYGFSIDQDMKSCG-KGLLESILKVVIWGIDSPEK VDPSTANEEAA-ILREAIRTKQLDSDELVLILSTRNVHQLKATFECYKQNYGFSIDQDIKSCG-KGLLESILKVVIWGIDSPEK VDDSTANLEAS-KLREATRTKQLDSDELVLILSTRNIHQLKATFECYKQNYGFSIDQDIKSCG-KGLLESILKVVIWGIDSPEK VSDLAKSEAK-IFVNAIKNANKKKIDEEEEIVRILSTRSKLHLKAIYSHYKEITGNFLDEDLEGDLTMKQVVQCLCVPKA VDRASVDHDAKALYKAGEKKIGTDEKTFIRIFSERSRAHLAAVSSAYHSMYSRKLKKAVKSET-SGLFEFALLTILQCAENPAT INARVANSEAD-ILHNAISNKEFNNEEIVRIICTRSTTQLVATLNRYKDYYGSSIKHLIDDTNDEDYKEVILALRTTIRCINDPQK VNMTLARKEAN-ILHEKISDKAYNDEEIIRIISTRSKAQLSATFNHYNDHHGHEIIKDLEADDDDDEYLKLLRAAIECLKTPEK VDPSTANLEAS-KLEAT	239 242 239 241 243 244 245 230 242 249 244 320 314 317 314 316 317 303 325 316 316
	ATANN1 STANN1 STANN3 STANN3.1 STANN3.2 STANN3.3 STANN4 STANN5 STANN8 STANN9 ANXA5 GHANN1 ATANN1 STANN1 STANN1 STANN1.2 STANN3.1 STANN3.2 STANN3.3 STANN5 STANN8	VNMT LAKQEAK-LVHEKIKDKHYNDEDVIRILSTRSKAQINATFNRYQDDHGEEILKSI BEGDDDKFLALLRSTIQLTRPEL VDLRLAKAESK-VLHEKISDKAYSDDEVIRILATRSKAQLNATLNHYKDEYGEDILKQI DEDEFVALLRATIKGLVYPEH VNMELASDEAK-ILHEKISDKADSDEFIRILSIRSKTQLNATFNQYNDKFGMAINKDLRANP-KDQVITLLRSAIKGLMEPEK VDPSFANEESA-ILRETIRTKQLDSDNFLILSTRNVHQLRATFECYKQNYGFSIDQDMKSCG-KGLLESILKVVIWGIDSPEK VDPSFANEEAA-ILREAIRTKQLDSDNFLILSTRNVHQLRATFECYKQNYGFSIDQDIKSCG-KGLLESILKVVIWGIDSPEK VDPSTANEEAA-ILREAIRTKQLDSDELVLILSTRNIHQLKATFECYKQNYGFSIDQDIKSCG-KGLLESILKVVIWGINSPEK VDRSTANEEAA-ILREAIRTKQLDSDELVLILSTRNIHQLKATFECYKQNYGFSIDQDITNCG-EGLLESILKVVIWGINSPEK VDRSTANEEAA-ILREAIRTKQLDSDELVLILSTRNIHQLKATFECYKQNYGFSIDQDITNCG-EGLLESILKVVIWGINSPEK VDRASVDHDAKALYKAGEKKIGTTEKTIRIFSERSRAHLAAVSSAYHSMYSKLKKAVKSGT-SGLEFFALLTILQCAENPAT INARVANSEAD-ILHNAISNKEFNNEEIVRIICTRSTQLVATLNRYKDYYGSSIKHLIDDTNDEDYKEYLLARAIEGLKTPEK VNMTLARKEAN-ILHEKISDKAYNDEEIIRIISTRSKAQLSATFNHYNDHHGHEIIKDLEADDDDDYKLKLRAAIEGLKTPEK VYEVLRDAINRRTEEDHLTRVIATRAEVD-LKIIADEYQKRDSIPLGRAIAKDTRGDYESMILAILGGEDD 	239 242 239 241 243 244 245 230 242 249 244 320 314 317 314 316 317 303 325 316 316

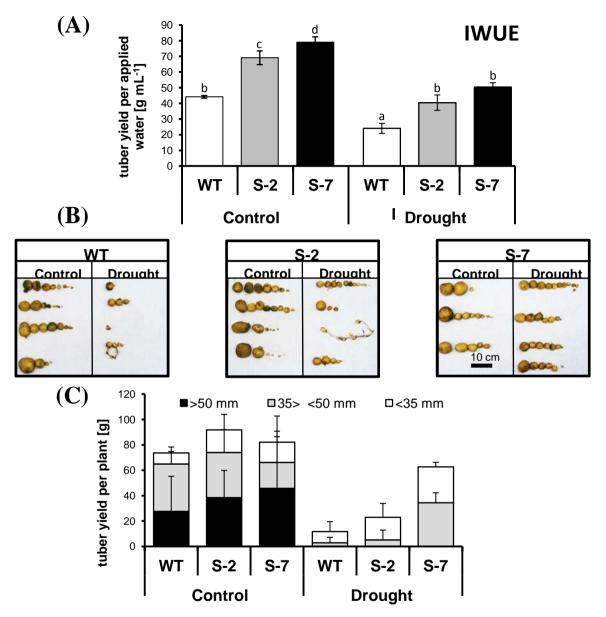
The alignment was done with Cobalt (Constrain-based Multiple Alignment Tool). Gene Bank Acc Nos of sequences are: human AnxA5 (NP_001145.1), cotton (*Gossypium hirsutum*) GHANN1 (1N00), *Arabidopsis thaliana* ATANN1 (2Q4C), *Solanum tuberosum* annexins: STANN1 (PGSC0003DMG4000177114), STANN2 (PGSC0003DMG40002817), STANN3.1 (PGSC0003DMG4000221817), STANN3.2 (PGSC0003DMG401019427), STANN3.3 (PGSC0003DMG402019427), STANN4 (PGSC0003DMG400019446), STANN5 (PGSC0003DMG40007966), STANN8 (PGSC0003DMG400007482) and STANN9 (PGSC0003DMG40001879). Boundaries of endonexin repeats (orange rectangles) were determined on the basis of crystallized plant annexins from cotton, GHANN1 and Arabidopsis ATANN1. Functional amino acid motifs (either predicted or previously indicated for plant annexins) are highlighted. Conserved histidine 40 residue is in red; methionine and cysteines from C3 cluster are in blue and underlined. Calcium binding motifs G-X-GTD-{38-40}-D/E are in green boxes; potential N-terminal acylation motif is in bold; putative actin-bindin domains IRI are bolded in yellow boxes. C-terminal peptide similar to 14-3-3 proteins is marked by blue rectangle. Amino acid residues of high conservation are shown in red, medium - in blue. Figure D. Drought tolerant phenotype of transgenic S-7 potato plants.



Each image depicts two WT plants (left side) and two transgenic S-7 plants (right side) subjected to experimental drought. Drought was started on D0 and lasted 21 days. During that time watering was gradually reduced so as to lower the FC to 20%. After reaching that level it was maintained until 21 days after onset of experiment. The soil was than fully saturated with water (rewatering) and FC was maintained at 65% until the end of experiment. D10 - irrigation withheld for 10 days, D14 irrigation withheld for 14 days, D21 - irrigation withheld for 21 days, RW5 – rewatered for 5 days. Experiments were repeated four times and similar results were obtained both in greenhouse and in growth chamber.

In WT symptoms of wilting clearly appeared after 10 days of drought; in S-7 they were apparent only after 2 weeks. On the 21st day WT were severely affected with damaged stems and dry leaves. At the same time in S-7 plants the upper leaves still maintained turgor. After rewatering only a few leaves in WT regenerated; instead, new shoots developed from below-ground parts after at least a week of regular irrigation. In contrast, the S-7 plants preserved their upper leaves and after rewatering returned to a normal healthy look within hours. The exact number of irreversibly damaged leaves varied between experiments, but it was always significantly lower than in WT.

Figure E. Potato yield during drought.

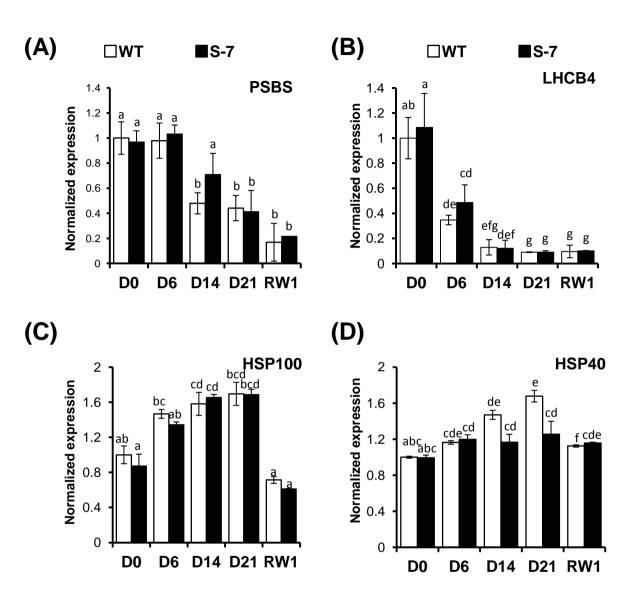


(A) Irrigated Water Use Efficiency (IWUE) is a quotient of crop produced per unit per amount of water supplied (IWUE = Y / W [g/pot/mL of water])

(B) An exemplary tuber yield per plant. Potato plants WT, S-2, and S-7 were grown in a greenhouse. After 8-10 weeks of growth plants were subjected to drought stress by restricting irrigation to achieve 20% FC and kept at this level until 14th day. After that time plants were rewatered and cultivated in optimal conditions for additional 10 weeks until physiological maturity. Tubers were lifted immediately after withering of haulms. The weight of all fresh tubers from single plant was determined immediately after harvesting. Experiments were repeated twice and gave similar results.

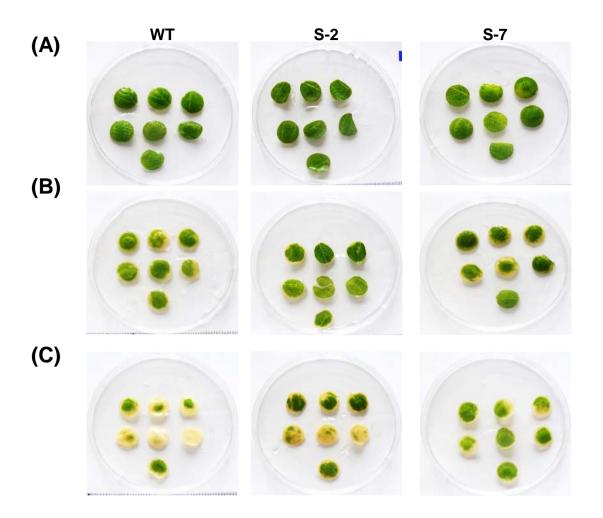
(C) Quantification of tuber yield experiments. Results are shown as mean SD (n=10)

Figure F. Expression of genes coding for PSII proteins and HSPs.



Relative quantification of *PSBS* (A), *LHCB4* (B) *HSP100* (C) and *HSP40* (D) mRNAs in leaves of WT (white bars) and transgenic S-7 (black bars) potato plants during three-week drought and after rewatering. The data represents the mean SE from at least four measurements. Homogenic groups are determined by Tukey HSD (Honestly Significant Differences) test, the same letters designate days which are not significantly different at P < 0.05 and belong to the same homogenic group.

Figure G. The effect of photooxidative stress on potato leaves.



Leaf discs ($\Phi \sim 1$ cm) were excised from leaves of WT or transgenic plants S-2 and S-7 and immediately infiltrated with (A) 50 mM Tris, pH 7.5 (B)10 μ m MeV or (C) 50 μ M MeV. Subsequently, leaf discs were exposed to light of 150 PPFD for 30 h.