**Supplementary file 1. Strains used in this study**

All strains carry the *veA1* mutation affecting sporulation. *pabaA1, pyroA4, riboB2, argB2, pyrG89, and inoB2* are auxotrophic mutations for p-aminobenzoic acid, pyridoxine, riboflavin, arginine, uracil/uridine and inositol respectively. *wA4* is a mutation resulting in white conidiospore color.

| **Name** | **Genotype** | **Reference** |
| --- | --- | --- |
| TNO2A7 | *ΔnkuA::argB pyrG89 pyroA4 riboB2* | Nayak et al., 2006 |
| wt | *pabaA1* | wild-type reference strain |
| *alcAp-uapA-gfp alcAp-mCherry-synA* | *ΔuapA::alcAp-uapA-GFP::AFriboB alcAp-mCherry-synA::AFpyroA ΔnkuA::argB riboB2 pyroA4 pabaA1* | This study |
| Δ*uapA* | *ΔuapA riboB2* | Pantazopoulou et al., 2009 |
| Δ*synA* | *ΔsynAΔ::AFriboB ΔnkuA::argB pyrG89 riboB2 pyroA4* | This study |
| *alcAp-uapA-gfp mCherry-sedV* | *pyroA::gpdAmp::mCherry-sedV ΔuapA::alcAp-uapA-gfp::AFriboB pabaA1 inoB2* | Dimou et al., 2020 |
| *alcAp-uapA-gfp mRFP-PHOSBP* | *pyroA::gpdAmp::mRFP-PHOSBP ΔuapA::alcAp-uapA-gfp::AFriboB pabaA1 inoB2* | Dimou et al., 2020 |
| *alcAp-gfp-synA mCherry-sedV* | *pyroA::gpdAmp::mCherry-sedV alcAp-gfp-synA::AFpyrG wA4 inoB2* | Dimou et al., 2020 |
| *alcAp-gfp-synA mrfp-PHOSBP* | *pyroA::gpdAmp::mrfp-PHOSBP alcAp-gfp-synA::AFpyrG wA4 inoB2* | Dimou et al., 2020 |
| *thiAp-sarA alcAp-uapA-gfp alcAp-mCherry-synA* | *ΔuapA::alcAp-uapA-gfp::AFriboB alcAp-mCherry-synA::AFpyroA thiAp-sarA::AFpyrG ΔnkuA::argB riboB2 pyroA4* | This study |
| *thiAp-sec12 alcAp-uapA-gfp alcAp-mCherry-synA* | *ΔuapA::alcAp-uapA-gfp::AFriboB alcAp-mCherry-synA::AFpyroA thiAp-sec12::AFriboB ΔnkuA::argB riboB2 pyroA4 pabaA1* | This study |
| *thiAp-sec24 alcAp-uapA-gfp alcAp-mCherry-synA* | *ΔuapA::alcAp-uapA-GFP::AFriboB alcAp-mCherry-synA::AFpyroA thiAp-sec24::AFpyrG ΔnkuA::argB riboB2 pyroA4* | This study |
| *thiAp-sec13 alcAp-uapA-gfp alcAp-mCherry-synA* | *ΔuapA::alcAp-uapA-GFP::AFriboB alcAp-mCherry-synA::AFpyroA thiAp-sec13::AFpyrG ΔnkuA::argB riboB2 pyroA4* | This study |
| *thiAp-sec31 alcAp-uapA-gfp alcAp-mCherry-synA* | *ΔuapA::alcAp-uapA-GFP::AFriboB alcAp-mCherry-synA::AFpyroA thiAp-sec31::pabaA ΔnkuA::argB riboB2 pyroA4* | This study |
| *thiApFLAG-sarA* | *thiApFLAG-sarA::AFpyrG ΔnkuA::argB pyrG89 pyroA4 riboB2* | This study |
| *thiApFLAG-sec12* | *thiApFLAG-sec12::AFpyrG ΔnkuA::argB pyrG89 pyroA4 riboB2* | This study |
| *thiApFLAG-sec24* | *thiApFLAG-sec24::AFpyrG ΔnkuA::argB pyrG89 pyroA4 riboB2* | This study |
| *thiApFLAG-sec13* | *thiApFLAG-sec13::AFpyrG ΔnkuA::argB pyrG89 pyroA4 riboB2* | This study |
| *thiApFLAG-sec31* | *thiApFLAG-sec31::AFpyrG ΔnkuA::argB pyrG89 pyroA4 riboB2* | This study |
| *sec31ts-AV* | *sec31A1249V::AFpyrG ΔnkuA::argB pyrG89 riboB2 pyroA4* | This study |
| *sec31ts-AS* | *sec31A1249S::AFpyrG ΔnkuA::argB pyrG89 riboB2 pyroA4* | This study |
| *sec31ts-AG* | *sec31A1249G::AFpyrG ΔnkuA::argB pyrG89 riboB2 pyroA4* | This study |
| *sec31ts-AP* | *sec31A1249P::AFpyrG ΔnkuA::argB pyrG89 riboB2 pyroA4* | This study |
| *sec31ts-AP alcAp-uapA-gfp alcAp-mCherry-synA* | *sec31A1249P::AFpyrG ΔuapA::alcAp-uapA-gfp::AFriboB alcAp-mCherry-synA::AFpyroA ΔnkuA::argB riboB2 pyroA4* | This study |
| *sec31ts-AP alcAp-uapA-gfp sec16-mCherry* | *sec31A1249P::AFpyrG ΔuapA::alcAp-uapA-gfp::AFriboB sec16-mCheery::AFpyroA ΔnkuA::argB riboB2 pyroA4* | This study |
| *sec31ts-AP alcAp-gfp-synA sec16-mCherry* | *sec31A1249P::AFpyrG ΔuapA::alcAp-gfp-synA::AFriboB sec16-mCheery::AFpyroA ΔnkuA::argB riboB2 pyroA4* | This study |
| *thiAp-copA alcAp-uapA-gfp alcAp-mCherry-synA* | *ΔuapA::alcAp-uapA-gfp::AFriboB alcAp-mCherry-synA::AFpyroA thiAp-copA::AFpyrG ΔnkuA::argB riboB2 pyroA4* | This study |
| *thiAp-arfA alcAp-uapA-gfp alcAp-mCherry-synA* | *ΔuapA::alcAp-uapA-gfp::AFriboB alcAp-mCherry-synA::AFpyroA thiAp-arfA::AFpyrG ΔnkuA::argB riboB2 pyroA4* | This study |
| *thiAp-sedV alcAp-uapA-gfp alcAp-mCherry-synA* | *ΔuapA::alcAp-uapA-gfp::AFriboB alcAp-mCherry-synA::AFpyroA thiAp-sedV::AFpyrG ΔnkuA::argB riboB2 pyroA4 pabaA1* | This study |
| *thiAp-geaA alcAp-uapA-gfp alcAp-mCherry-synA* | *ΔuapA::alcAp-uapA-gfp::AFriboB alcAp-mCherry-synA::AFpyroA thiAp-geaA::AFpyrG ΔnkuA::argB riboB2 pyroA4 pabaA1* | This study |
| *thiAp-rabO alcAp-uapA-gfp alcAp-mCherry-synA* | *ΔuapA::alcAp-uapA-gfp::AFriboB alcAp-mCherry-synA::AFpyroA thiAp-rabO::AFpyrG ΔnkuA::argB riboB2 pyroA4 pabaA1* | This study |
| *thiAp-hypB alcAp-uapA-gfp alcAp-mCherry-synA* | *ΔuapA::alcAp-uapA-gfp::AFriboB alcAp-mCherry-synA::AFpyroA thiAp-hypB::AFpyrG ΔnkuA::argB riboB2 pyroA4* | This study |
| *thiAp-rabE alcAp-uapA-gfp alcAp-mCherry-synA* | *ΔuapA::alcAp-uapA-gfp::AFriboB alcAp-mCherry-synA::AFpyroA thiAp-rabE::AFpyrG ΔnkuA::argB riboB2 pyroA4* | This study |
| *thiAp-ap1σ alcAp-uapA-gfp alcAp-mCherry-synA* | *ΔuapA::alcAp-uapA-gfp::AFriboB alcAp-mCherry-synA::AFpyroA thiAp-ap1σ::AFriboB ΔnkuA::argB riboB2 pyroA4 pabaA1* | This study |
| *alcAp-uapA-gfp mCherry-sedV thiAp-rabE* | *ΔuapA::alcAp-uapA-gfp::AFriboB pyroA::gpdAmp::mCherry-sedV thiAp-rabE::AFpyrG* | This study |
| *thiAp-rabE alcAp-uapA-gfp mRFP-PHOSBP* | *pyroA::gpdAmp::mRFP-PHOSBP ΔuapA::alcAp-uapA-gfp::AFriboB thiAp-rabE::AFpyrG pabaA1* | This study |
| *thiAp-ykt6 alcAp-uapA-gfp alcAp-mCherry-synA* | *ΔuapA::alcAp-uapA-gfp::AFriboB alcAp-mCherry-synA::AFpyroA thiAp-ykt6::AFpyrG ΔnkuA::argB riboB2 pyroA4 pabaA1* | This study |
| *Δsec22 alcAp-uapA-gfp alcAp-mCherry-synA* | *ΔuapA::alcAp-uapA-gfp::AFriboB alcAp-mCherry-synA::AFpyroA Δsec22::AFpyrG ΔnkuA::argB riboB2 pyroA4 pabaA1* | This study |
| *thiAp-ykt6 Δsec22 alcAp-uapA-gfp alcAp-mCherry-synA* | *ΔuapA::alcAp-uapA-gfp::AFriboB alcAp-mCherry-synA::AFpyroA thiAp-ykt6::AFriboB Δsec22::AFpyrG ΔnkuA::argB riboB2 pyroA4* | This study |
| *thiAp-sft1 alcAp-uapA-gfp alcAp-mCherry-synA* | *ΔuapA::alcAp-uapA-gfp::AFriboB alcAp-mCherry-synA::AFpyroA thiAp-sft1::pabaA ΔnkuA::argB riboB2 pyroA* | This study |
| *thiAp-bos1 alcAp-uapA-gfp alcAp-mCherry-synA* | *ΔuapA::alcAp-uapA-gfp::AFriboB alcAp-mCherry-synA::AFpyroA thiAp-bos1::pabaA ΔnkuA::argB riboB2 pyroA4* | This study |
| *thiApFLAG-ykt6* | *thiApFLAG-ykt6::pyrG89 ΔnkuA::argB pyrG89 pyroA4 riboB2* | This study |
| *thiApFLAG-sft1* | *thiApFLAG-sft1::AFpyrG ΔnkuA::argB pyrG89 pyroA4 riboB2* | This study |
| *thiApFLAG-bos1* | *thiApFLAG-bos1::AFpyrG ΔnkuA::argB pyrG89 pyroA4 riboB2* | This study |
| *ΔrabD* | *ΔrabD::AFpyrG ΔnkuA::argB pyrG89 riboB2 pyroA4* | This study |
| *thiAp-ssoA* | *thiAp-ssoA::AFpyrG ΔnkuA::argB pyrG89 riboB2 pyroA4* | Dimou et al., 2020 |
| *thiAp-sec9* | *thiAp-sec9::AFpyrG ΔnkuA::argB pyrG89 riboB2 pyroA5* | This study |
| *thiApFLAG-ssoA* | *thiApFLAG-ssoA::AFpyrG ΔnkuA::argB pyrG89 pyroA4 riboB2* | This study |
| *thiApFLAG-sec9* | *thiApFLAG-sec9::AFpyrG ΔnkuA::argB pyrG89 pyroA4 riboB2* | This study |
| *uapA-gfp* | *ΔuapA::uapA-gfp::AFriboB ΔuapC::AfpyrG ΔnkuA::argB pabaA1 pyroA4 riboB2* | Evangelinos et al., 2016 |
| *thiAp-ssoA uapA-gfp* | *ΔuapA::uapA-gfp thiAp-ssoA::AFpyrG ΔnkuA::argB pabaA1* | Dimou et al., 2020 |
| *thiAp-sec9 uapA-gfp* | *ΔuapA::uapA-gfp thiAp-sec9::AFpyrG ΔnkuA::argB pabaA1* | This study |
| *ΔsynA uapA-gfp* | *ΔuapA::uapA-gfp ΔsynA:AFriboB ΔnkuA::argB pabaA1* | This study |
| *gfp-chsB* | *gfp-chsB::AFpyrG ΔnkuA::argB pyrG89 pyroA4 riboB2* | Dimou et al., 2020 |
| *thiAp-ssoA gfp-chsB* | *gfp-chsB::AFpyrG thiAp-ssoA::AFriboB ΔnkuA::argB pyrG89 pyroA4 riboB2* | This study |
| *thiAp-sec9 gfp-chsB* | *gfp-chsB::AFpyrG thiAp-sec9::AFpyrG pyrG89 pyroA4* | This study |
| *ΔsynA gfp-chsB* | *gfp-chsB::AFpyrG ΔsynA::AFriboB ΔnkuA::argB pyrG89 pyroA4 riboB2* | This study |
| *ΔrabD alcAp-uapA-gfp alcAp-mCherry-synA* | *ΔuapA::alcAp-uapA-gfp::AFriboB alcAp-mCherry-synA::AFpyroA ΔrabD::AFpyrG ΔnkuA::argB riboB2 pyroA4 pabaA1* | This study |
| *ΔnyvA* | *ΔnyvA::AFpyrG ΔnkuA::argB pyrG89 riboB2 pyroA4* | This study |
| *Δsec22 ΔnyvA ΔsynA* | *Δsec22::AFpyrG ΔnyvA::AFpyroA ΔsynA::AFriboB ΔnkuA::argB pyrG89 riboB2 pyroA4* | This study |
| *ΔnyvA uapA-gfp* | *ΔuapA::uapA-gfp ΔnyvA:AFpyrG ΔnkuA::argB pabaA1* | This study |
| *Δsec22 ΔnyvA ΔsynA uapA-gfp* | *ΔuapA::uapA-gfp Δsec22::AFpyrG ΔnyvA::AFpyrG ΔsynA::AFriboB ΔnkuA::argB pyroA4 pabaA1* | This study |
| *ΔnyvA gfp-chsB* | *gfp-chsB::AFpyrG ΔnyvA:AFpyrG pyrG89 pyroA4* | This study |
| *Δsec22 ΔnyvA ΔsynA gfp-chsB* | *gfp-chsB::AFpyrG Δsec22::AFpyrG ΔnyvA::AFpyrG ΔsynA::AFriboB ΔnkuA::argB pyroA4 pabaA1* | This study |