

JOINT EVENT

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Functional characterization of *Chlamydomonas reinhardtii* MTP1-4 by yeast heterologous expression for enhanced metal tolerance and uptake**Ibuot Aniefon Alphonsus**

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Metal pollution has been a great challenge in most industrialized countries as a result of waste generated from industrial activities being introduced into the environment. Algae have been considered a potential tool for bioremediation of metal pollutants due to its metal sequestration properties. In this study, a family metal transport protein named MTP1-4 from *Chlamydomonas reinhardtii* were screened by yeast heterologous expression for metal transport activity. MTP1 was able to strongly rescue the Zn and Co sensitivity of *zrc1 cot1* strain, MTP3 could weakly mediate Zn and Co growth, but MTP2 and MTP4 appeared to have no Zn or Co tolerance activity. MTP2, MTP3 and MTP4 but not MTP1 could strongly rescue the Mn sensitivity of *pmr1* strain. Metal transport proteins are potential tools that can be manipulated for enhance metal tolerance and uptake.

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