

バイオサイエンス学科 学会発表

【発表者について】 アンダーラインは本学教員、研究員および技術職員、○は発表者、※は大学院生、卒研究生または卒業生

<p>学会名</p>	<p>Japan-Taiwan Plant Biology 2019 (March 14-16, 2019, Nagoya)</p>
<p>演題名</p>	<p>Blocking of carotenoid biosynthesis caused a defect in the normal eyespot formation and resulted in a loss of phototaxis of <i>Euglena gracilis</i></p>
<p>発表者</p>	<p>★Shota Kato^{1, 2}, Kazunari Ozasa³, Mizuo Maeda³, *Yuri Tanno⁴, Mieko Higuchi⁵, Keiji Numata⁵, Yutaka Kodama⁶, Mayuko Sato⁷, Kiminori Toyooka⁷, Hong Gil Nam², Tomoko Shinomura^{1, 4}</p> <p>1Plant Molecular and Cellular Biology Laboratory, Department of Biosciences, School of Science and Engineering, Teikyo University, 1-1 Toyosatodai, Utsunomiya, Tochigi, 320-8551, Japan 2Center for Plant Aging Research, Institute for Basic Science (IBS), Daegu 42988, Republic of Korea 3Bioengineering Laboratory, RIKEN, 2-1 Hirosawa, Wako, Saitama, 351-0198, Japan 4Plant Molecular and Cellular Biology Laboratory, Division of Integrated Science and Engineering, Graduate School of Science and Engineering, Teikyo University Graduate Schools, 1-1 Toyosatodai, Utsunomiya, Tochigi, 320-8551, Japan 5Biomass Engineering Research Division, Center for Sustainable Resource Science, RIKEN, 2-1 Hirosawa, Wako, Saitama 351-0198, Japan 6Center for Bioscience Research and Education, Utsunomiya University, 350 Mine-machi, Utsunomiya, Tochigi, 321-8505, Japan 7Center for Sustainable Resource Science, RIKEN, 1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa, 230-0045, Japan (*2018年度植物分子細胞学研究室の大学院生、★2018年度本学の博士研究員)</p>
<p>内容</p>	<p>本発表では、第60回日本植物生理学会年会とのジョイントミーティングとして開催された、日本-台湾国際植物科学会議において、<i>Euglena</i> (ミドリムシ) のカロテノイド合成系遺伝子を欠損する細胞を作出して光運動反応に用い、眼点の新しい機能を見出した結果を報告しました。 本研究の一部は科学研究費補助金(基盤研究C)の支援を受け、理化学研究所の3つの研究室や韓国IBS Center for Plant Aging Researchと共同で研究を行いました。</p> <p>Here, we reported that <i>crtB</i>-suppressed cells of <i>E. gracilis</i> had a defect in the formation of normal eyespot and in the phototactic response. Motion analyses using a microfluidic device and video tracking techniques revealed that <i>EgcrTB</i>-suppressed cells had a defect in the initiation of changes of swimming direction right after the switching of light direction, rather than a defect in a stop of turn at appropriate position. Our findings suggested the presence of a novel eyespot-derived signal for the initiation of phototaxis of this alga.</p>
<p>関連画像</p>	