

課題番号 (Project number) 57

Identification of SWI/SNF interacting proteins and their anti-cancer and anti-aging functions

[1] 組織 (Research group)

代表者 (Principal Investigator) :

Jessica Anne Downs
(Institute of Cancer Research)

対応者 (Host researcher at IDAC) :

Akira Yasui
(IDAC, Tohoku University)

研究費 (Expenditure report of research funds) :
consumable goods 300,000 Yen

[2] 研究経過 (Research setup)

We used antibody raised against BAF180 (BETHYL A301-591A) for immunoprecipitation of HEK293 cell extracts. Immune-precipitated cell extracts were washed and extracted before SDS-gel electrophoresis. Proteins derived from antibody were excluded by the novel extraction process. Protein bands were separately isolated and identified by nano-LC-MS/MS mass spectrometry.

[3] 成果 (Research outcomes)

(3 - 1) 研究成果 (Results)

These experiments have identified new interacting factors with the BAF180 subunit of the PBAF chromatin remodeling complex. Importantly, several factors have been reported to contribute to genome stability.

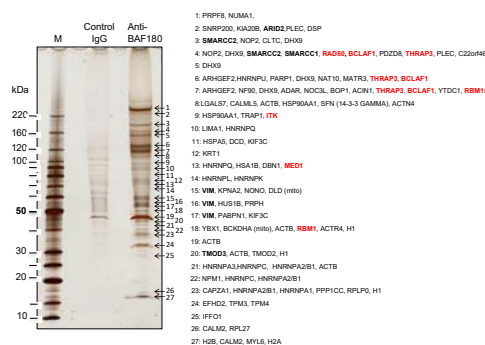


Fig. 1 Gel electrophoresis of proteins bound to anti-BAF180. Interesting proteins in terms of DNA damage response are marked with red.

(3 - 2) 波及効果と発展性など (Future perspectives)

PBAF is known to contribute to the DNA damage response in several ways. First, it contributes to the repair of DNA breaks. Second, it is important for repressing transcription in the vicinity of a DNA break. Third, it is important for mediating sister chromatid cohesion. We will now test several promising candidates identified in this project in assays for all three PBAF functions. These studies will lead to a better mechanistic understanding of the role of PBAF in DNA damage responses.

[4] 成果資料 (List of Papers)

None.