MINERALOGICAL AND PB-ISOTOPIC STUDY OF AN ALLENDE CAI. M. Yoshitake[1] and K. Yamashita[2]. [1]Antarct. Meteorite Res. Center, National Inst. of Polar Res., 1-9-10 Kaga, Itabashi, Tokyo 173-8515, Japan. E-mail: yoshitake.miwa@nipr.ac.jp. [2]Institute for Study of the Earth's Interior, Okayama University, Yamada 827 Misasa, Tottori 682-0193, Japan

Introduction: Calcium, aluminum-rich inclusions (CAIs) consist of high temperature minerals in the solar nebula. CAIs show the oldest age in the solar system [1]. In addition, there are report that difference minerals in a CAI show difference formation age [2]. On the other hand, chondrules have no evidence of live-^{26}Al [3] and evidence of live-^{26}Al [4]. In order to reveal the formation time interval between CAIs, chondrules and each mineral, it is need the high precision chronometer. There are some reports about Pb-Pb age of CAIs and chondrules [1, 5]. However there are not many systematically studies of mineralogical and isotpical about CAIs. We applied new sample preparation method to link mineralogical and petrological studies to the absolute age. This is preliminary report.

Sample preparation: CAI (KA01) was picked up from chip of Allende meteorite. This chip was cut into two thin sections and three chips. The thin sections were coated with a 30-nm-thick carbon film for analyzing of electron microscopy.

The fragment of CAI was carved out from the one of chips. In order to analyses for Pb-isotopes, this fragment was grinded to powder as two fractions. These powders (13.78mg and 16.51mg) were applied 6 steps and 10steps chemical treatment using HCl, HNO_3, and HF. After dissolution of each fraction, Pb was separated by through column containing ~50 µl of anionite AG50W x8 for analyzing using TIMS at Kobe University. We applied isotope dilution method using ^{205}Pb spike by NIST. We prepared total 16 blanks at the same time.

After column chemistry, we collected the residue. We observed the residue by FESEM-EDS at Hokkaido University.

Results and discussion: Major minerals of KA01 were melilite and spinel. These minerals are probably primary phase. It is surround by spinel and fassaite rim. Anorthite and grossular occur near the rim and crack. Hedenbergite is rare. It is block in shape and occurs in the crack. These minerals seem to be secondary phases. Perovskite grains are in melilite grand-mass. These textures and their mineral assemblage indicate that KA01 is type A CAI. ^{207}Pb/^{206}Pb ratios in this CAI are from 0.61625 to 0.62932. ^{206}Pb/^{204}Pb ratios are from 28.33 to 415.05. These date are not plotted single isochron. Pb-isotopic compositions of each fraction slightly differed. We observed minerals in several residues. First step of residue consist of spinel grains and Al-rich material. Last step residue is almost Al-rich material. There are no silicate minerals in the residues.

These results indicate followed possibility. (1) Each mineral or each fraction have different Pb-isotopic composition. (2) Mass fractionation occurred during chemical treatment. (3) There are multiple sources of Pb-isotopes. Further investigation into details is required.

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