

Geochemical investigations for magma genesis of Pre-Unzen volcano, Shimabara Peninsula, Kyushu, Japan

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Cenozoic Basalts, which have similar geochemical characteristics to ocean island basalt (OIB) enriched in incompatible elements, are distributed at East Asia along NE China, Korea and Southwest (SW) Japan. The origin of these basalts have been explained by components from mantle plume and stagnant Pacific slab (Sakuyama et al., 2014; Kuritani et al., 2011; Kuritani et al., 2017). In the northeast Kyushu, SW Japan, Cenozoic basaltic volcanic activities are observed from Goto Islands (0.5 Ma - 2ka, K - Ar and ¹⁴C age; Nakagoka & Furuyama, 2004), Kitamatsura (8.5 - 6 Ma, K - Ar age; Sakuyama et al., 2009). The magma genesis of former is explained by hydrous plume component from the upper mantle (Kuritani et al., 2017), and contribution of plume component from the lower mantle is emphasized to the later (Sakuyama et al., 2014). The reason for the difference of basalt magma genesis from those closed area is still unclear. At the Shimabara Peninsular located between Goto Islands and Kitamatsura, basaltic Pre - Unzen volcano was active from 4.6 Ma to 0.5 Ma (K - Ar age; Yokoyama et al., 1981, Nakada & Kamaata, 1998, Uto et al., 2002). It is suggested that the geochemical characteristics of Pre-Unzen basalts is similar to that of OIB (Hoang & Uto, 2006). However, detailed geochemical study is not well accumulated. Because Pre-Unzen volcano stands specially and temporally in between Goto Islands and Kitamatsura, the investigations of magma genesis of Pre - Unzen volcano give us the insight to understanding the Cenozoic mantle processes beneath the NE Kyushu in the respect to the mantle plume and stagnant Pacific slab. Therefore, we analyzed trace element compositions of the basalt from Pre - Unzen volcano. The results and discussions will be presented.

Keywords: Pre - Unzen volcano, stagnant slab, mantle plume