

Chemical compositions and age of the Yusubaru Granite, eastern part of northern Kyushu

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The Yusubaru Granite, distributed in the eastern part of the Cretaceous granitic rocks in northern Kyushu, is divided into main facies, melanocratic porphyritic facies and leucocratic facies. The main facies is fine-grained massive biotite to two-mica granite. The melanocratic porphyritic facies consists of medium-grained porphyritic hornblende-biotite granodiorite. The leucocratic facies mainly consists of fine- to coarse-grained massive two-mica granite, and rarely contains garnet. The main and leucocratic facies show continuous chemical change trends. Thus, they were derived from same magma. The melanocratic porphyritic facies show big change of texture and modal composition in a body, and show chemical compositions between main facies and hornblende-biotite granodiorite distributed in the Masaki Granite. Thus, this facies was formed by mixing main facies magma and granodioritic magma intruded into magma chamber of the former. The main facies and granodiorite distributed in the Masaki Granite give zircon U-Pb ages of 98.6 +/- 0.9 Ma and 98.7 +/- 0.6 Ma, respectively. These ages are clearly younger than that of the Soeda Granodiorite (107.4 and 103.1 Ma) and Masaki Granite (103.7 Ma) reported by Yuhara et al.(2015). This suggests that both magma intruded at same time during the last stage of granitic activity in the Cretaceous granitic rocks in eastern part of northern Kyushu.

Keywords: Yusubaru Granite, Zircon U-Pb age, Cretaceous granitic rocks in northern Kyushu