

# **AGE AND SOURCE CHARACTERISTIC OF PHANEROZOIC GRANITES IN SOUTH KOREA**

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The geology of South Korea is divided into four major tectonic units; the Gyeonggi massif (Precambrian), the Ogcheon belt (late Precambrian to Paleozoic), the Yeongnam massif (Precambrian) and the Gyeongsang basin (Cretaceous to Tertiary) from northwest to southeast. Traditionally the Phanerozoic granites in South Korea have been classified into two types by their emplacement ages. One is Jurassic Daebo granite and the other is Cretaceous to Tertiary Bulguksa granite. Recent geochronological estimations confirmed the presence of Triassic granites in the Ogcheon belt (Daegang, Cheongsan, and Baegrok granites) and in the northern Gyeongsang basin (Cheongsong, Younghae, and Youngdeog granites), indicating that the Triassic magmatism of South Korea was more severe than presumed hitherto. Reviewed age data for the Bulguksa granite in the Gyeongsang basin are concentrated into three major epochs; 45-55 Ma, 65-75 Ma, 95-105 Ma, suggesting its formation by episodic tectonomagmatic events. Sr, Nd, and Pb isotopic signatures of Phanerozoic granites in South Korea reflect the basement characteristics. Simple crustal contamination cannot explain their isotopic systematics successfully. Instead, the isotopic variation could be attributed to the heterogeneity of source regions (lower crust or MASH zone in the mantle-crust boundary) and some modifications by AFC processes.