

U-Pb dating of detrital zircons in the quartzite clasts and their provenance from the Muro Group

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Quartzite has quartzitic texture which is characterized by a tight mosaic of interlocking quartz crystals. Quartzite in sedimentary and metamorphic origins is called orthoquartzite (quartzarenite) and metaquartzite, respectively. Quartzite clasts have been found in various places in the Japanese Islands but there is no potential provenance of quartzite clasts in the Japanese Islands. The purpose of this paper is to clarify the source rocks for quartzite clasts from the Shimanto and Hida belts from their characteristics. Study targets are the Muro and Nichinan Group from the Shimanto belt and the Tetori Group from the Hida belt.

To examine the provenance of quartzite clasts in the Muro Group, we carried out U-Pb dating of detrital zircons in quartzite clasts in the Muro Group. Detrital zircon ages have a peak of 1800Ma and a range of 1600-2600 Ma. These ages seem to characterize the North China Craton. Quartzite clasts in the Muro Group were derived from North China Craton including the Korean Peninsula by a probable reworking process.

Keywords: U-Pb dating, quartzite, zircon, Muro Group, orthoquartzite, metaquartzite