

# **Cenozoic Basic Magmatism of Iran**

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The Cenozoic basic magmatism of Iran shows various petrological characters :

- 1- Potassic basic association: This association is divided into two groups :
  - Leucitite - leucite basanite, is associated with leucite tephrite and leucite phonolite. This undersaturated and highly potassic magmatism is erupted in a relatively thick subcontinental lithosphere (for exemple in Azerbaijan).
  - Shoshonite series: Ranging from absarokite-shoshonite to latite-banakitite. This potassic magmatism appears either in time or in space in different Iranian magmatic belts.
- 2- Sodic basic association: This association is more common and is divided into three groups :
  - Basanite-tephrite association. It consists of nepheline basanite-nepheline tephrite and analcime basanite-tephrite. It seems these magmatic rocks are produced by low rate mantlic partial melting and eventually originated from metasomatized mantle (presence of phlogopite-biotite peridotite nodules in basanites).
  - Alkali basalt association: It is ranging from alkali basalt to trachyte. This magmatism is more common and interbedded with hybrid calc-alkaline rocks.
  - Transitional-subalkali basalt association-This association is found especially in Urumieh-Dokhtar Zone . This magmatism seems, related to high rate partial melting of mantle and associated with ascending thermal gradient, producing voluminous crustal anatectic melts (ignimbrites, ash tuffs, etc).