Did Life Once Exist on Mars?
SNC meteorites: unusually young ages, formed on a planet, blasted into space and exposed to cosmic rays after formation. Hard to blast matter off Mercury, Venus or Earth into Earth-crossing orbit, implying Mars or Moon origin.
Trapped gases nearly identical to atmospheric composition of Mars.
Three groups of SNC meteorites:
1. formation age 4.5 Byrs, impact age (transit time) 15 Myrs;
2. formation age 1.3 Byrs, impact age (transit time) 12 Myrs;
3. formation age 170 Myrs, impact age (transit time) 3 Myrs.

Recently, a NASA team announced possibly detecting evidence of former life in ALH 84001, which landed in Antarctica 13,000 yrs ago. Evidence associated with carbonate globules, spherical crystals formed as carbonate precipitates from liquid water permeating the rock 3.6 Byrs ago:
• Shapes resembling Earth bacteria, 1/100 thickness of human hair, the same size as the smallest known Earth bacteria.
• Existence of biominerals, possibly formed as a result of biological activity (magnetite, pyrrhotite, and greigite).
• Existence of complex hydrocarbons, PAHs, whose concentration increases with depth, making terrestrial contaminants unlikely. These PAHs differ from those ever observed in other meteorites or cosmic dust, and are a limited subset of the PAHs occurring on Earth.
• Coincidence of 3.6 Byr globule age with the presence of liquid water on Mars.

BUT:
• Extremely small size disturbs biochemists.
• No evidence of cell walls, reproduction, growth, or cell colonies.
• $^{32}\text{S}/^{34}\text{S}$ higher than in Earth life.
• Previous claims of “life” in meteorites have always proved false.