Aquifex aeolicus
Thermotoga maritima
Thermus thermophilus
Bacteria

"Nanoarchaeum equitans" "Nanoarchaeota"

Methanopyrus kandleri
Pyrococcus furiosus
Pyrococcus abysii
Pyrococcus horikoshii
Thermococcus onnurineus
Thermococcus kodakaraensis
Archaeoglobus flugidus
Methanocaldococcus janashii
Methanococcus aeolicus
Methanococcus maripaldis S2
Methanococcus vannielii
Picrophilus torridus
Thermoplasma volanium
Thermoplasma acidophilum
Methanothermobacter thermoautotrophicus
Methanobrevibacter smithii
Methanosphaera stadtmanae
Natronomonas pharaonis
Haloarcula marismortui
Haloburum lacusprofundi
Halobacterium salinarum R1
Haloquadratum walsbyi
Methanospirillum hungatei
Methanoregula boonei
Methanosphaerula palustris
Methanoculleus marisnigri
Methanocorpusculum labreanum
RC-I
Methanosaeta thermophila
Methanosarcina mazei
Methanosarcina acetivorans
Methanosaricina barkeri
Euryarchaeota

pJP78 (L25303)
pOWA19 (AB007304)
"Korarchaeum cryptofilum"
"Korarchaeota"

Thermofilum pendens
Caldivirga maquilingensis
Pyrobaculum caldilifontis
Pyrobaculum aerophilum
Pyrobaculum islandicum
Pyrobaclulum arsenaticum
Thermoproteus neutrophilus
Ignicoccus hospitalis
Desulfurococcus kamchatkensis
Staphylothermus marinus
Hyperthermus butylicus
Aeropyrum pernix
Sulfolobus solfataricus
Metallosphaera sedula
Sulfolobus acidocaldarius
Sulfolobus tokodaii
Crenarchaeota

APA3-11cm (AF119137)
pMC2A36 (AB019720)
VC2.1 Arc31 (AF068822)
7B08 (AY835411)
CRA8-27cm (AF119128)
BS_SR_E2 (AJ578142)
Deep Sea Archaeal Group (DSAG)
(Marine Benthic Group B [MBGB])

SUBT-13 (AF361212)
"Nitrosocaldus sp." clone 45-H-12 (AB201308)
SUBT-14 (AF361211)
"Candidatus Nitrosocaldus yellowstonii" strain HL72 (EU239960)
NRPD (AB243795)
NRPB (AB243793)
pSL12 (U63343)
HAuD-LA19 (AB113630)
54d9 (AJ627422)
"Candidatus Nitrosocaldus gargensis" clone RHGA36c (EU281332)
4B7 (U39635)
"Cenarchaeum symbiosum" (U51469)
"Nitrosopumilus maritimus" (NC_010085)
"Thaumarchaeota"

pSL22 (U63340)
pSL4 (U63341)
"**Caldiarchaeum subterraneum**"
pSL78 (U63344)
SUBT-11 (AF361214)
Hot Water Crenarchaeotic Group I (HWCGI)
"Aigarchaeota"

pSL17 (U63339)
AT_R021 (AF419653)
MOB4-16 (DQ841222)
SBAK-mid-18 (DQ522920)
VulcPIw.10 (DQ300318)
HAuD-LA27 (AB113631)
HAuD-LA42 (AB113634)
NRPS (AB243810)
NRPK (AB243802)
HDBW_WA24 (AB237757)
Miscellaneous Crenarchaeotic Group (MCG)

0.1

Fig. S1. Maximum likelihood phylogenetic tree of SSU rRNA gene including *C. subterraneum* and environmental sequences in crenarchaeal lineages using 1020 identical nucleotide positions. Bacterial sequences were used as out-group. Numbers indicate bootstrap values from 100 replications. Accession numbers of GenBank/EMBL/DDBJ were given in parentheses. Bar, 1 substitution per 10 nucleotides.