800 IU vitamin D/day will maintain vitamin D status.
Bone Metabolism

Breakdown

Formation

Intracranial Pressure
Fluid Shifts
Cabin CO₂
Exercise, Sodium

One-Carbon Metabolism
**Enzymes**

- Proteins, amino acid strings
- Assembled from amino acids based on "blueprints"

**Enzyme Polymorphisms**

- Poly = multiple, "morph" = forms
- For many (all?) enzymes, there are small differences in blueprints across the population (e.g., blood types)

**Follow-on study:**

- Five 1C polymorphisms
- Expanded biochemistry/metabolomics
- Vision and related medical data
- n = 70/72 ISS astronauts
This line of research may ultimately:
Inform risks of space flight
Inform research/countermeasure options
Have broad application in health and medicine
Calcium Isotopes

Bone formation favors light Ca isotopes

No isotope discrimination during bone resorption