# Mars has gas, and Curiosity finds organic matter -- fuzzy signs of life?

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**Mars has gas, and Curiosity finds organic matter -- fuzzy signs of life?**

**(CNN)** -- It could be a sign, a vague one.

A NASA rover has found the building blocks of life on Mars. They might be the product of past or present life on the Red Planet -- or they might not be.

Either way, the samples of organic matter in the atmosphere and in rock show that Mars may at least have once had conditions favorable to hosting life, NASA said in a statement. They also show that the planet is still chemically active.

The Curiosity rover's tapping into organics in rock is the first find ever of life's building blocks on Mars' surface.

## Gas blast

The rover has run into pockets of gas on Mars: methane, often used to fire up gas stoves back on Earth.

Organic matter is made up of carbon bonded with other elements, often hydrogen and oxygen. Living things are made up of it, but life is not necessary for it to exist.

Methane is the smallest organic compound, consisting of one carbon and four hydrogen atoms.

On our planet, methane is a fossil fuel, but it can also rise out of rotting sewage or fly through the air in flatulence.

In other words, it usually comes from something living, or something that was once alive.

## No life found

That could be the case on Mars, too, NASA said in a statement this week.

But the space agency carefully points out that methane can also come from inanimate sources as well.

"There are many possible sources, biological or non-biological, such as interaction of water and rock," said Sushil Atreya, a scientist on the Curiosity team.

At this point, NASA doesn't know if microbes are behind the gas or just minerals.

Researchers used Curiosity's instruments a dozen times to get a breath of methane, and four

of those times, it peaked at a level 10 times higher than usual.

They believe it may have been puffed up from the ground like little burps.

**Organic rock**

Curiosity also found organic matter while drilling into stone.

"This first confirmation of organic carbon in a rock on Mars holds much promise," said scientist Roger Summons, who works on the rover team.

These building blocks of life could have formed on Mars, or meteorites could have brought them there. Scientists aren't sure yet.

Also, they can't be completely sure what molecules they are, because a coincidental chemical reaction that occurs in the detection device skews some of the samples.

So far, they've also found no sign of microbes in the rock powder, neither present nor past.

The history of water on Mars has also been a popular research topic.

The analysis of hydrogen atoms Curiosity found in rock have led NASA scientists to conclude that much of Mars' former oceans disappeared very early -- before the rocks were formed.

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