

WHAT IS ONE NANOGRAM?



Breaking
down the
word...

'Nano-' is one billionth.
"-gram" is a measurement of mass.

A **nanogram (ng)** is a unit of measurement which indicates a mass equal to **one billionth**.

DID YOU KNOW?

If you slice a single grain of rice into 25,000,000 parts...

One of the 25,000,000 parts weighs 1 nanogram.

How else can you describe one nanogram?

As a fraction: **1/1,000,000,000**

As a decimal point: **0.000000001**

As a value: **10^{-9}**



What is the weight of one nanogram?

The human body has approximately 100,000,000,000,000 (100 trillion) cells.

**1 human cell weighs
1 nanogram—on average.**

How does a lab measure a nanogram?

Analytic balances are the standard mass-measurement technique for most chemistry labs. They work with electromagnetic principles—the force of the object's mass pushes down on an electric cell in the balance, setting off a current. This current is measured and converted to a mass.

At nanogram scales, very sensitive devices using piezoelectric effects can be utilized. Although these balances are very accurate, there is usually a limit as to how much mass they can take. A typical analytical balance may only hold a few grams before overloading.