

## **Omicron: everything you need to know about new Covid variant**

科普：奥密克戎毒株为何“需要关注”，现有防疫工具是否有效[qh]

### **What is it called?**

最新变异毒株叫什么？

The variant was initially referred to as B.1.1.529, but on Friday was designated as a variant of concern (VOC) by the World Health Organization because of its “concerning” mutations and because “preliminary evidence suggests an increased risk of reinfection with this variant”. The WHO system assigns such variants a Greek letter, to provide a non-stigmatising label that does not associate new variants with the location where they were first detected. The new variant has been called Omicron.

该变异毒株最初被称为 B.1.1.529，世界卫生组织 11 月 26 日认定其为“需要关注”的变异株，因为其出现“令人担忧”的突变以及“初步证据表明该变异株使人体再次感染的风险增加”。世卫组织以希腊字母“奥密克戎”命名该变异毒株。这样不带歧视的命名形式确保这些新变异毒株的名字不会与它们首次被发现的地方关联起来。

### **When was the Omicron variant first detected?**

何时首次检测到奥密克戎毒株？

The B.1.1.529 variant was identified on Tuesday and highlighted as a concern due to its high number of mutations, which could lead it to evade immunity. It was also linked to a surge in case numbers in the Gauteng province of South Africa, an urban area containing Pretoria and Johannesburg, in the past two weeks. These two factors put it quickly on the radar of international monitors, with the chief medical adviser to the UK Health and Security Agency describing the variant as the “most worrying we’ve seen”.

奥密克戎变异毒株于 11 月 23 日被发现，由于其存在大量突变，可能逃避人体的免疫系统，而引起关注。该变异株与过去两周南非豪登省（包含比勒陀利亚和约翰内斯堡的城区）的病例数量激增有关。这两个因素迅速引起了国际监测机构的注意，英国卫生安全局首席医学顾问称这种变异毒株是“我们见过的最令人担忧的”。

### **Where did it come from?**

奥密克戎毒株从哪里来？

Although initially linked to Gauteng, the variant did not necessarily originate there. The earliest sample showing the variant was collected in Botswana on 11 November. Scientists say that the unusual constellation of mutations suggests it

may have emerged during a chronic infection of an immunocompromised person, such as an untreated HIV/Aids patient.

虽然奥密克戎毒株最初与豪登省相关，但并不一定起源于豪登省。该变异株的最早样本是 11 月 11 日在博茨瓦纳收集到的。科学家称，这种不寻常的大量突变表明，奥密克戎毒株可能是在免疫功能低下的人（如未经治疗的艾滋病病毒携带者或艾滋病患者）的慢性感染过程中出现的。

### **Why are scientists worried about it?**

为什么科学家对此感到担忧？

The variant has more than 30 mutations on its spike protein – the key used by the virus to unlock our body’s cells – more than double the number carried by Delta. Such a dramatic change has raised concerns that the antibodies from previous infections or vaccination may no longer be well matched.

奥密克戎毒株的刺突蛋白有 30 多个突变，是德尔塔毒株的两倍多。刺突蛋白是病毒解锁人体细胞的钥匙。这种巨大的变化让人担心以前因感染或接种疫苗产生的抗体可能对奥密克戎毒株无效。

### **Is it more transmissible?**

奥密克戎毒株传播力更强吗？

This is not yet clearcut but the emerging picture is worrying. There has been a surge of cases in South Africa from 273 cases on 16 November to more than 1,200 by the start of last week. More than 80% of these were from Gauteng province and preliminary analysis suggests the variant has rapidly become the dominant strain. The R value, which indicates how fast an epidemic is growing, is estimated to be 1.47 for South Africa as a whole, but 1.93 in Gauteng. There is a chance this is a statistical blip linked to a super-spreader event but the data has triggered enough concern for precautionary measures.

关于这点尚不清楚，但目前出现的情况令人担忧。南非的病例从 11 月 16 日的 273 例激增到上周初的 1200 多例。其中 80% 以上来自豪登省，初步分析表明该变种已迅速成为优势菌株。R 值表示流行病的传播速度，据估算南非整体 R 值为 1.47，豪登省 R 值为 1.93。这可能是与超级传播者有关的暂时性统计突变，但统计数据已经足以让人担忧，需要采取预防措施。

### **Will existing vaccines work against it?**

现有的疫苗对奥密克戎毒株有效吗？

Scientists are concerned by the number of mutations and the fact some of them have already been linked to an ability to evade existing immune protection.

These are theoretical predictions, though, and studies are rapidly being conducted to test how effectively antibodies neutralize the new variant. Real-world data on reinfection rates will also give a clearer indication on the extent of any change in immunity.

奥密克戎毒株基因突变的数量以及其中一些突变与逃避现有免疫保护的能力有关，这让科学家感到担忧。不过，这些都是理论上的预测，目前正在迅速开展研究，以测试抗体对新毒株的有效性如何。再感染率的真实数据也将更清楚地表明免疫力变化的程度。

Scientists do not expect that the variant will be entirely unrecognizable to existing antibodies, just that current vaccines may give less protection. So a crucial objective remains to increase vaccination rates, including third doses for at-risk groups.

科学家们并不认为现有抗体完全无法识别奥密克戎毒株，只是目前的疫苗保护力可能降低。因此，一个关键目标仍然是提高疫苗接种率，包括为高危人群提供第三剂疫苗。

### **What about existing drugs?**

现有的药物呢？

Scientists expect that recently approved antiviral drugs, such as Merck's pill, will work as effectively against the new variant because these drugs do not target the spike protein – they work by stopping the virus from replicating. However, there is a bigger risk that monoclonal antibodies, such as Regeneron's treatment, could fail or partially fail because they target parts of the virus that will have mutated.

科学家们预计，最近批准的抗病毒药物，如默克的药剂，将对这种新毒株同样有效，因为这些药物不针对刺突蛋白——它们通过阻止病毒复制发挥作用。然而，单克隆抗体（如再生元制药公司的药物）失败或部分失败的风险更大，因为它们针对的是病毒将发生突变的部分。

### **Will the variant cause more severe Covid?**

感染奥密克戎毒株病情会更严重吗？

There is no information yet on whether the variant leads to a change in Covid symptoms or severity – this is something South African scientists will be closely monitoring. Since there is a lag between infections and more serious illness, it will take several weeks before any clear data is available. At this stage, scientists say there is no strong reason to suspect that the latest variant will be either worse or milder.

目前还没有关于该变异株是否会导致新冠病毒症状或严重程度改变的信息——南非科学家将密切关注这一点。由于感染和更严重的病症之间存在时滞，因此需要几周时间才能获得明

确的数据。在这个阶段，科学家表示没有强有力的理由怀疑感染奥密克戎毒株病情会更重或更轻。