
Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Pérez-Fernández and colleagues, post-hoc analysis of the ECMO to rescue lung injury in severe ARDS trial[3] suggests that patients with greater risk of developing ventilator-induced lung injury might be more likely to benefit from ECMO than those who were enrolled because of severe hypoxaemia.[3]

Our study showed that the mortality rate of ECMO-supported patients with COVID-19 worsened and the duration of ECMO support lengthened later in the pandemic.[1] We encourage centres to consider these factors when creating policies to guide ECMO allocation.[4] Moreover, during a pandemic, the use of resource-intensive interventions such as ECMO must also be informed by the needs of local health-care systems.[5]

RPB is the ELSO Registry chair. GM, and DB are on the ELSO board of directors. DB is the president-elect of ELSO. DB also chairs the executive committee for the International ECMO Network. ASS chairs the Scientific Oversight Committee of the International ECMO Network. RPB reports grants from the US National Institutes of Health (R01 HL153519, R01 HD015434, and K12 HL138039). ASS reports consulting fees from Baxter and Xenios in relation to ECMO. DB reports grants from ALung Technologies, and medical advisory board relationships with Xenios, Abiomed, Cellenkos, and Medtronic. JS declares no competing interests.

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## Brazilian science under continuous attack

Despite the resistance of Brazilian scientists, science in Brazil has been undermined by measures implemented by the federal government in the past 3 years, such as increasing budget cuts, attacks on the autonomy of universities, and a general policy of denial of science. A recent budget cut of US$110 million to the Ministry of Science Technology and Innovations budget, in addition to the withholding of $490 million from the National Scientific and Technological Development Fund, not only represents an enormous impediment to conducting research at universities and research institutes, but also jeopardises the future scientific development of a country.[1] Consequences include a brain drain among scientists and demoralisation and discontent in the ranks of Brazilian scientific researchers. In addition, scientists risk indirect sanctions if their research contradicts the positions sustained by the Bolsonaro administration, such as affirming that the Amazon rainforest is not burning or that chloroquine or hydroxychloroquine can be used to safely and effectively treat COVID-19.[2]

The recent show of disrespect towards scientists was a federal decree, issued on Nov 5, 2021, revoking the National Order of Scientific Merit award granted to two scientists, Adele Schwartz Benzaken and Marcus Vinicius Guimarães de Lacerda.

In response to this revocation, 200 previous award recipients penned a letter expressing their objection, and 23 other Brazilian scientists currently nominated for this award withdrew their names in solidarity with their unfairly discredited colleagues.[3,4] This act also triggered an immediate reaction from several Brazilian academic and scientific societies, including the Brazilian Academy of Sciences and the Brazilian Society for the Advancement of Science. In early 2020, research by Borba and colleagues[5] showed that higher doses of chloroquine should not be recommended for the treatment of severe COVID-19.

Benzaken was the former director of the Brazilian STD/HIV-AIDS and Viral Hepatitis Department at the Health Surveillance Secretariat (Ministry of Health) who was fired in January, 2019.

The attacks perpetrated by the current federal administration are not limited to science and scientists, and affect education, public health, the environment, and cultural programmes.[6–8] It is our hope that Brazil will not continue to be guided by denial and will avert the degradation of science.


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## New INN nomenclature for monoclonal antibodies

Monoclonal antibodies (mAbs) are the largest class of biological products in clinical use. They comprise a large variety of different structures, from small fragments to intact, modified, or unmodified immunoglobulins, all of which contain an antigen binding domain.

Appropriate nomenclature for all pharmaceutical substances is important for clinical development, licensing, prescribing, pharmacovigilance, and identification of counterfeits. This nomenclature is especially relevant for mAbs, and the WHO International Nonproprietary Names (INN) Programme implemented a mAb nomenclature scheme in 1991, using the stem -mab to identify this group.[1,2]

In recent years, the INN Programme received an increase in INN requests for mAbs,[3] which is making the selection of distinguishable INNs very difficult. This trend is unlikely to change in the foreseeable future and, with advances in technology, various engineered and modified mAbs are submitted.

There are 880 INNs with the stem -mab. The WHO INN Expert Group therefore decided to revise the system to ease this situation. The revised system was approved and adopted by WHO at the 73rd INN Consultation held in October, 2021, and the radical decision was made to discontinue the use of the well-known stem -mab (unpublished).

The new INN mAb nomenclature scheme was developed to equally divide the substances that contain an immunoglobulin variable domain into four groups: three groups for monospecific immunoglobulins and one for bispecific and multispecific immunoglobulins. The stem -mab was replaced by four new stems covering all previous uses of -mab. To facilitate the coining of new INN, the new stems are distinct from each other.

The new stem -tug is used for monospecific, full-length, and Fc unmodified immunoglobulins. For monospecific, full-length immunoglobulins with engineered constant domains, -bart is used. The stem -mig is used for bispecific or multispecific immunoglobulins, regardless of their format, type, or shape. The stem -ment is now used for monospecific fragments of any kind that are derived from an immunoglobulin variable domain.[4]

Most target-related infixes used in the new scheme are unchanged; however, some infixes are revised.

It is hoped that the new scheme will allow pharmacologically meaningful distinctions and selection of distinguishable and pronounceable INNs, and that this scheme will remain in use for a considerable period. However, some small changes might be necessary in the future to accommodate changes in mAb development and clinical use. In any case, the INN Programme runs on a flexible basis with living documentation underpinning it.[5]

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