IUPHAR and COVID-19

IUPHAR is responding to the current crisis by coordinating pharmacological resources worldwide, particularly the responses of the pharmacological community, and posting key documents, on this site and on the site of the IUPHAR/BPS [www.guidetopharmacology.org](http://www.guidetopharmacology.org) which holds a list of the drugs being currently proposed or assessed for treatment ([https://www.guidetopharmacology.org/coronavirus.jsp](https://www.guidetopharmacology.org/coronavirus.jsp)). This effort is being continually updated by the Guide’s curators in Pr Jamie Davies’ group at the University of Edinburgh, supported by (at least) weekly meetings of NC-IUPHAR (chaired by Steve Alexander, backed up by the many IUPHAR expert subcommittees). An article on drug testing against SARS-CoV-2 is in final preparation. In this first webpage announcement we list the most advanced progress of some of the world’s pharmacological societies, but this will be continuously updated, as we have more news from societies, and key recommendations, with the aim of global coverage.

A key issue for us is the alliance we announced last year, with the International Union of Pharmacological Societies (IUIS), and the reinforcement of IUPHAR’s immunology group, Immuphar, led by Francesca Levi-Schaffer (Tiligada et al., 2015, Ishii, 2017). This alliance, coupled with a 0.5M£ three-year grant from the Wellcome trust, allowed us to create the Guide to Immunopharmacology ([https://www.guidetoimmunopharmacology.org/immuno/index.jsp](https://www.guidetoimmunopharmacology.org/immuno/index.jsp)). This Guide lists up-to-date information on the science underlying each immune target, coupled to the immunological cell type involved. It is important to note that these freely-available databases are constantly evolving, so can never be perfect, and always benefit from constructive criticism and input from users – please help!

The best way to use these databases are outlined in Harding et al. (2018,2020).

Coronaviruses have major immunological effects after targeting ACE2 (Pinto et al, 2020), or their other targets. The cytokine storm, and massive lung fibrosis following SARS in very seriously affected patients, is mediated by the classical immunological mediators recently described by Fung et al., (2020). The immunological profile of patients in recovery is a critical factor to be defined..

In addition to this the clinical division of IUPHAR, led by Caroline Samer, who is also IUPHAR’s representative to WHO, is working on clinical trials, and data assessment, co-organizing a review with the Chinese Pharmacology Society, CNPHARS, on the clinical data coming from the first country to be confronted by this worldwide health challenge.

IUPHAR, in conjunction with the Medicines for Malaria Venture, MMV, funded by the Gates Foundation, has also produced the [www.Guidetomalariapharmacology.org](http://www.Guidetomalariapharmacology.org). (Armstrong et al., 2020) of interest considering the evolving situation with chloroquine and hydroxychloroquine and therapy of COVID-19.

Clinical case studies are also described in ,Immunopaedia ([https://www.immunopaedia.org.za/](https://www.immunopaedia.org.za/)), the IUIS immunology education platform, which is now linked to the IUPHAR Pharmacology Education Project (PEP) ([www.pharmacologyeducation.org/pharmacology/immunopharmacology](http://www.pharmacologyeducation.org/pharmacology/immunopharmacology)); so education in both pharmacology and immunology is now linked.
Furthermore, the IUPHAR Early Career Investigators Committee, led by Carl White, unites 14 young investigators nominated by pharmacology societies around the world, who are eager to help.

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Some examples of how the world’s pharmacology societies are organizing in the crisis:

1. The French Society for Pharmacology and Therapeutics (SFPT, President Silvy) has benefitted by its well organised clinical and pharmacovigilance group, to organize an expert question and answer site for the general public (https://sfpt-fr.org/covid19). Pharmacovid is supported by a network of the major clinical pharmacologists and epidemiologists in France which meet, virtually, round a dedicated platform everyday, to field and reply to questions, via dedicated experts, with links to regulatory bodies. Furthermore, the site has an ongoing metanalysis analysis of the results every 6 hours for the drugs being analysed all round the world (http://www.metaevidence.org/COVID19.aspx) for professionals. Thus, SFPT has set up a major well-coordinated initiative, with the capacity to react rapidly in this rapidly evolving situation. Their site is the preferred Francophile site. The following YouTube video has also been developed for reference: https://www.youtube.com/user/SFPTFrance/.

2. ASPET has responded to the COVID-19 pandemic in the following ways:
   • Published a COVID-19 perspective article in Molecular Pharmacology which was made freely accessible immediately. To access this page: https://www.aspet.org/aspet/news/news/2020/04/02/molecular-pharmacology-publishes-covid-19-perspective-article
   • Been working to identify and fast-track COVID-19-related manuscripts and ensure accepted manuscripts are freely accessible immediately.
   • Created an information page about ASPET’s journals for authors, reviewers, readers in light of COVID-19.
   • Prepared a COVID-19 resource page that is freely available to members and the public. To access this page: https://www.aspet.org/aspet/news/covid-19-resources-and-information
   • Initiated our new ASPETConnect community to provide a forum for discussion and to pro-actively communicate with our members.
   • Offered flexibility and no-cost extensions for ASPET-funded summer undergraduate research programs that have been impacted by COVID-19.

We will continue to add the progress made by the world’s pharmacology societies here as content is received.

References:


