2020 International Day of Immunology – FINAL REPORT

By: Dr. Jesús Gil-Pulido, on behalf of the Spanish Society for Immunology (SEI)

DESCRIPTION

The COVID-19 pandemic has hit hard our daily routines: lockdowns, *forced* home office, and social distancing, just to mention some of the measures applied by countries all over the world. While all these measures are meant to reduce the spread of the new SARS-CoV-2 among the population, and thus, avoid deaths, one of the biggest problems that we are now facing is misinformation.

Misinformation involves many types of actions, and fake news is one of the most known types. This kind of misinformation is thought to affect society at different levels. As immunologists, we are very aware of the anti-vaccine movement, one perfect example of fake news aiming to change and impact the society by spreading non-evidence information about vaccination with the ability to change people's thoughts. Fake news is really hard to beat. It spreads fast and it is difficult to stop.

The COVID-19 pandemic is not different: *fakers* all over the world are now selling "their products" to self-benefit without caring about people's health. And of course, one of the main areas they can touch is immunology. Supplements to "boost" our immune system, superfoods to impact our immune cells, miracle solutions using the immune system as an argument are now fakes news circulating without any control through Social Media and Internet platforms. And we need to stop it by using similar channels and a similar language to get the attention of the society. This is one of the pillars of our campaign surrounding the Day of Immunology.

But debunking fake news is not all the story: we need to spread evidence-based studies. Correct immunology. And we can do that by reaching both specialized and non-specialized audiences attractively. This way, when they face fake news, they will be now educated and could think: "*does what I am reading make any sense?*"

We believe that this COVID-19 pandemic together with the celebration of the Day of Immunology has given us the perfect excuse to put our maximum effort into divulgating immunology.

Interestingly, and although not any official treatment until today has been approved, some of the therapies used to treat severe COVID-19 cases are also used to treat autoimmunity. And autoimmunity/autoinflammation is the DOI's topic chosen by the IUIS. This is another pillar from our Day of Immunology's campaign.

Our campaign was centered around these three topics: **autoimmunity,** to follow the motto chosen by the IUIS, **misinformation,** and **immunity of COVID-19**.

THE CAMPAIGN(s)

Target

Using virtual platforms we have decided to target everyone around the world. We adapted all of our resources to a broad range of audiences: from professionals (scientists, health personal) to a non-scientific audience (public outreach). The latter group was especially important to fight against **misinformation**, as this problem is greater among them.

How did we spread our campaign?

We used our Social Media channels: Facebook (+21000 followers) and Twitter (+4500 followers) to implement our campaigns. Furthermore, some of the material was also distributed among our private LinkedIn Group (around 650 members) as well as our Instagram account (approx. 1000 followers). Finally, we also used an associated Youtube channel to support our webinars (together with our Facebook account).

FIRST TOPIC: AUTOIMMUNITY

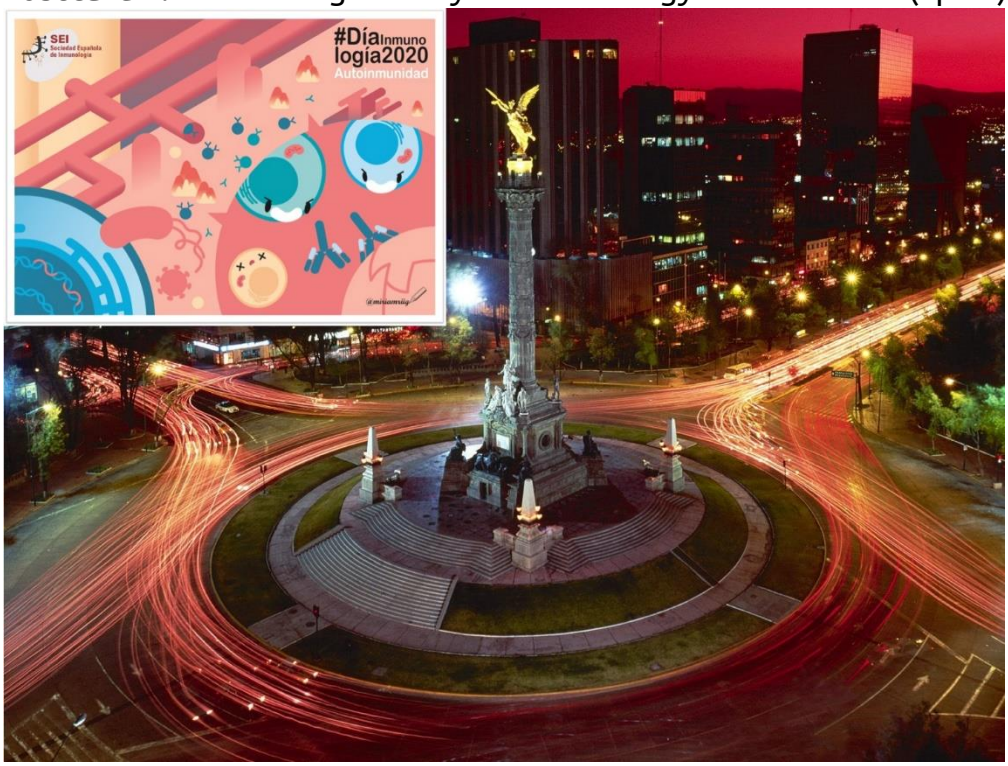
We have developed an infographic explaining which causes and mechanisms are behind autoimmune diseases (Fig. 1 to 6). The campaign took place in two steps:

1) we first upload the infographics on our social media channels, reaching **91000** people all around the world (SH 1) and had around **4400 Facebook reactions** to all pictures ("Likes, Love, Happy…etc.) (Fig. 8). To note, we have not used any paid-service from Facebook to reach more people. These results are based on **organics views**.

SH1. Results from the first step of the autoimmunity campaign.

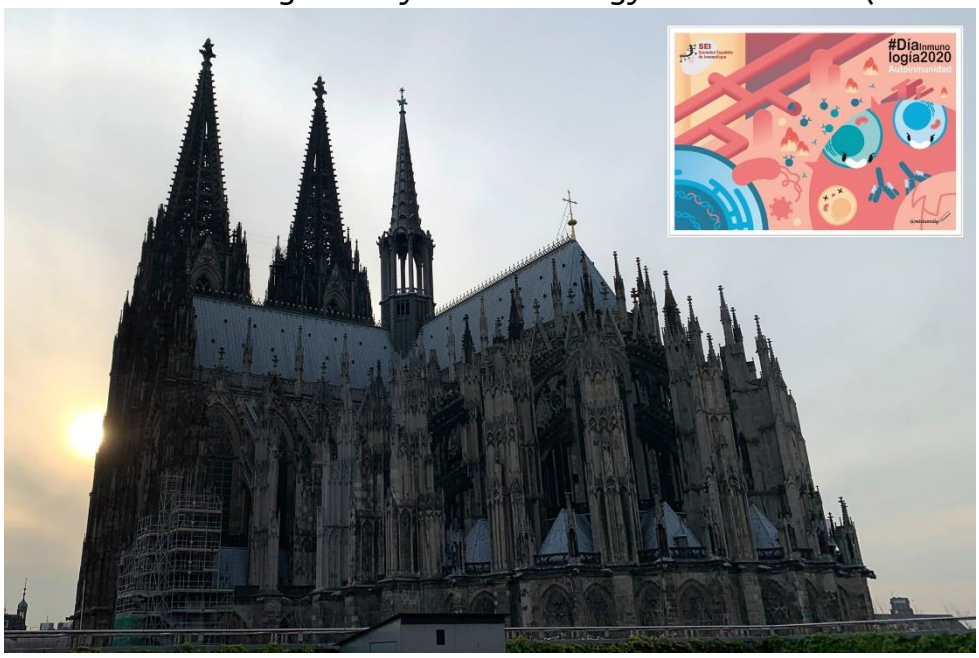
2) second, we wanted to involve our followers to celebrate the Day of Immunology and thus we asked them to send us a postcard composed of our day of immunology main picture (Figure 1) embedded in an image from their city. We received more than 50 pictures from Spain, Germany, Ireland, and America (Mexico, Panama, Ecuador, Peru, Venezuela…), some of them are shown below (Postcard 1 to 5):

Postcard 1. Celebrating the Day of Immunology from Granada (Spain)



Postcard 2. Celebrating the Day of Immunology from Ciudad de Mexico (Mexico)

Postcard 3. Celebrating the Day of Immunology from San José (Costa Rica)



Postcard 4. Celebrating the Day of Immunology from Cologne (Germany)

Postcard 5. Celebrating the Day of Immunology from Urubamba (Peru)

SECOND TOPIC: MISINFORMATION

We partnered with a renowned organization in Spain ("Salud Sin Bulos") to implement a campaign to fight against COVID-19 misinformation, with an obvious special focus on immunity. Ten cartoons explaining some of the most-famous myths were created. So far, the campaign was a tremendous success, with more than **360.000** people reached (SH 2) and more than **11.000 Facebook reactions**. Again, these numbers are **organic views**. Some of these cartoons can be viewed in the Figure section (Figure 7 to 10). Topics included: serological test, plasmatherapy, MMS, and supplements for COVID-19.

SH 2. Results from the **Misinformation** campaign.

THIRD TOPIC: IMMUNITY OF COVID-19

Finally, taking advantage of the COVID-19 pandemic and their role in our immune system, we focus on developing infographics, webinars, and comics to explain all immunological aspects surrounding SARS-CoV-2 and COVID-19.

- We had **4 webinars**, the first having more than 2.000 views. Some of the covers can be viewed in Figure Sections (Figure 11 and 12).
- We developed **4 infographics** (serological test, plasmatherapy, how to "boost" our immune system and antibodies against SARS-CoV-2), and several recommendations. In total, we reached more than **300.000** people using our Social Media, with plenty of interactions. Some of these infographics can be viewed in the Figure section (Figures 13 to 15).
- Finally, we created a **comic** composed of **3 parts** talking about our immune system and COVID-19. This was also a great success reaching out appr. **100.000** people when summing all three posts. The whole series can be viewed in the Figure section (Figures 16 to Figure 18).

SUMMARY

Altogether, using social media (Facebook, Twitter, Youtube, LinkedIn, Instagram) as well as other virtual platforms (Webinars) we have reached almost **one million** people all around the world to celebrate the Day of Immunology. We believe that we have contributed to increasing the awareness of immunology as well as to focus the attention to autoimmunity even in a difficult situation as the coronavirus was/is.

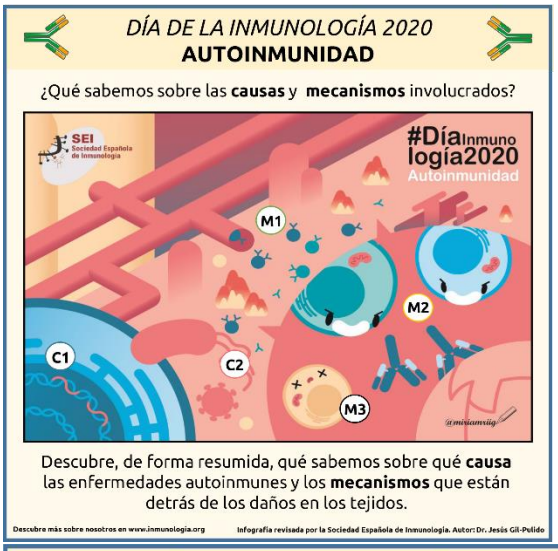
We hope that all of our followers have enjoyed immunology as much as we have enjoyed preparing all this material. We are looking forward to celebrating the next Day of Immunology.

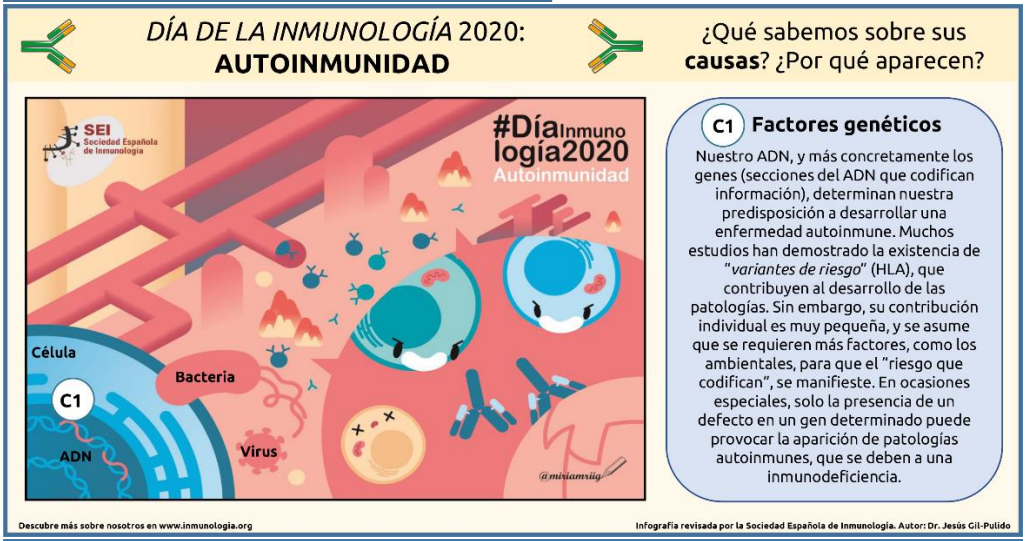
Happy DOI to all!

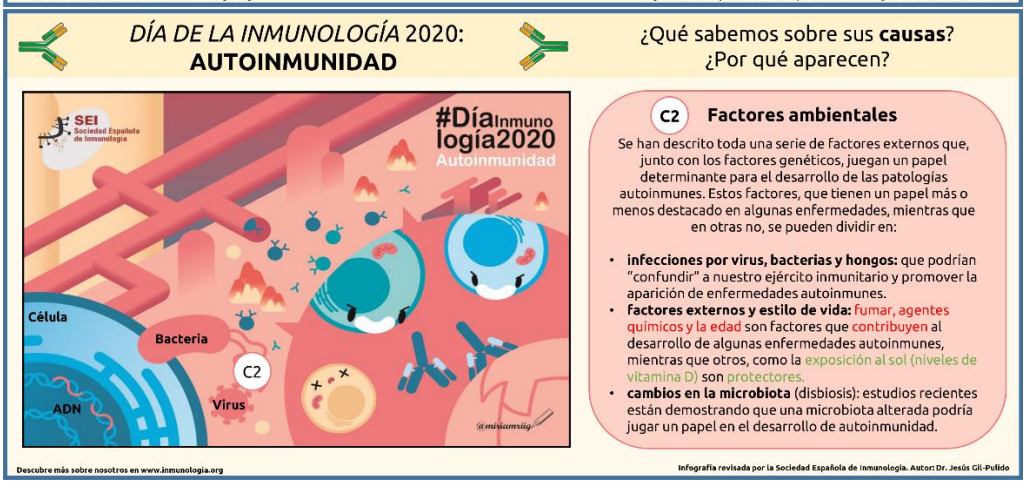
FIGURES

AUTOIMMUNITY CAMPAIGN.

Figures 1 to 6.







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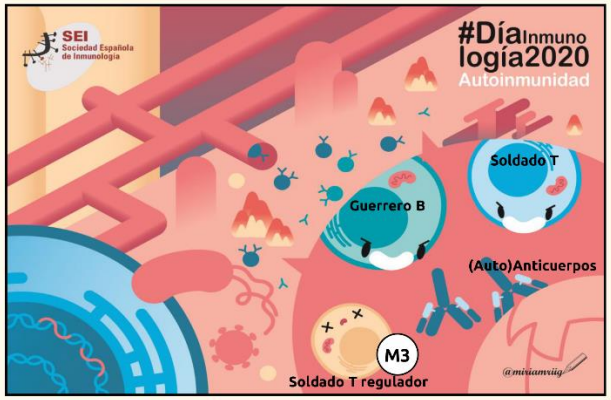
DÍA DE LA INMUNOLOGÍA 2020: **AUTOINMUNIDAD**

¿Qué **mecanismos** están involucrados?



M3 Soldados T reguladores defectuosos (pérdida de tolerancia periférica)

En condiciones normales, los soldados T reguladores se encargan de pararle los pies a los demás guerreros del ejército (por ejemplo, a esos "*no aptos*" que puedan escaparse). En algunas enfermedades autoinmunes, su número puede estar disminuido o su función de regulación alterada. No solo eso, también se ha visto que, en algunas de estas patologías, estos soldados sufren una "*crisis de identidad*" (inestabilidad y plasticidad) y se comportan como otros guerreros más agresivos, contribuyendo al daño tisular. Una terapia experimental prometedora consiste en potenciar a los soldados T reguladores de los pacientes para que paren la "batalla interna".

Descubre más sobre nosotros en www.inmunologia.org

Infografía revisada por la Sociedad Española de Inmunología. Autor: Dr. Jesús Gil-Pulido

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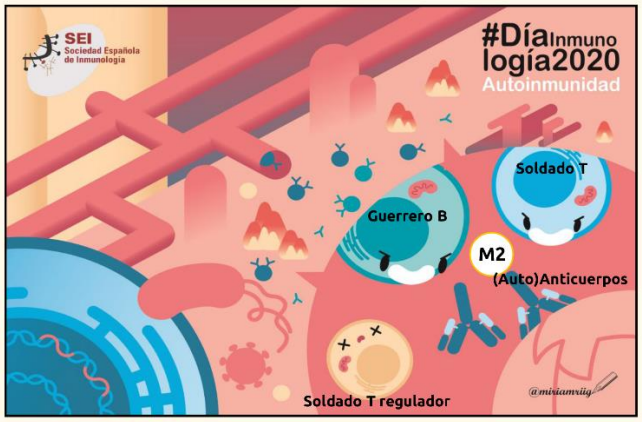

M2 Soldados T y B "*no aptos*"

Los soldados T y B "*no aptos*" que se escapan de las academias (tal y como veíamos en M1) están detrás de los ataques que se producen a los tejidos. ¿Cómo lo hacen? Los soldados T reconocen células sanas y las "confunden" con patógenos. Por ejemplo, pueden reconocer células productoras de insulina del páncreas, y destruirlas (diabetes de tipo 1). Los soldados B, por otro lado, pueden producir anticuerpos (autoanticuerpos) frente a los tejidos. Éstos, alarman al resto de células del sistema inmunitario, creando daño (como ejemplo, el lupus sistémico eritematoso).

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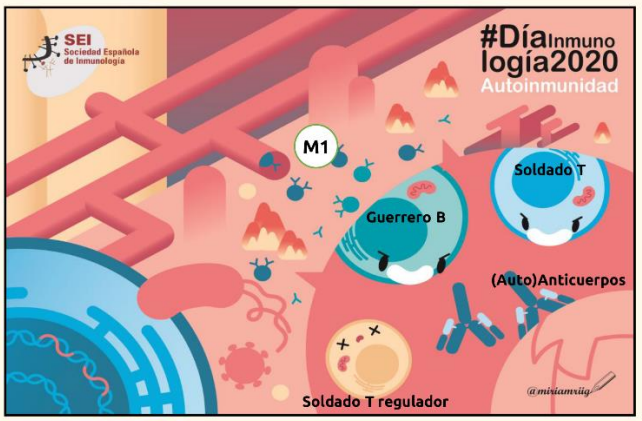

M1 Pérdida de control (tolerancia) central

Generalmente, los soldados que reconocen estructuras propias son eliminados del reclutamiento en los órganos de entrenamiento (el timo y la médula ósea). En las enfermedades autoinmunes, existen múltiples problemas en los entrenamientos (no se presta atención al personal que se recluta, los soldados hacen creer que no reconocen estructuras propias…)lo que provoca que soldados "*no aptos*" (M2) salgan a la circulación. De esta forma, cuando se encuentren a su "enemigo" (un tejido propio), comienza la batalla autoinmune, que provocará daño y originará síntomas.

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MISINFORMATION CAMPAIGN

Figure 7 to 10

IMMUNITY OF COVID-19

Figures 11 and 12: Webinars

Figures 13 to 15: Infographics

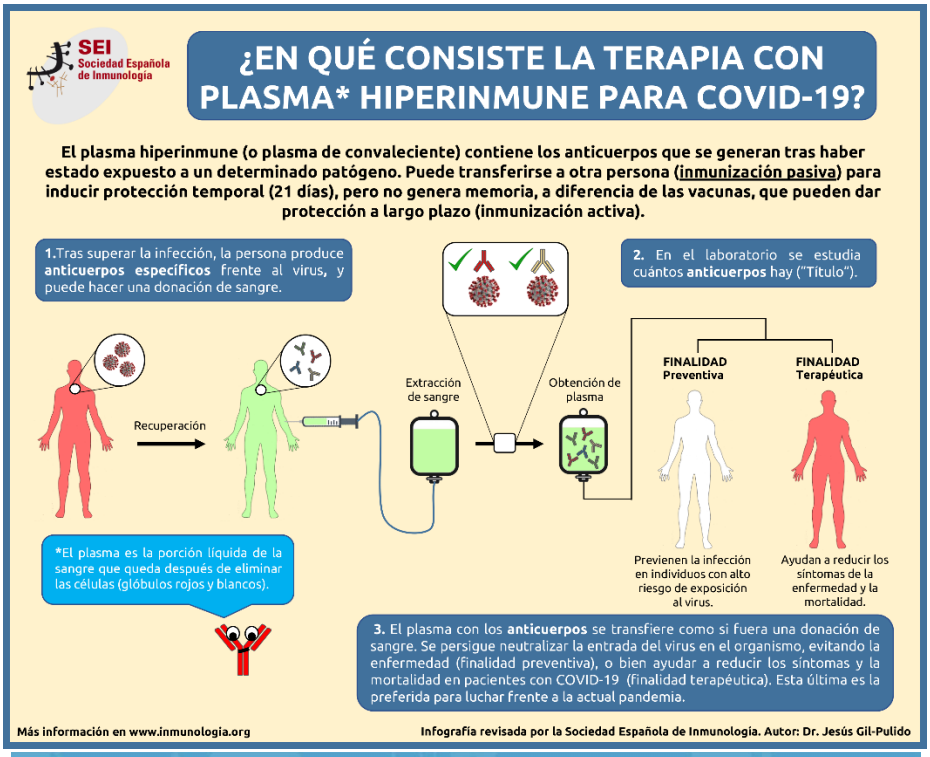
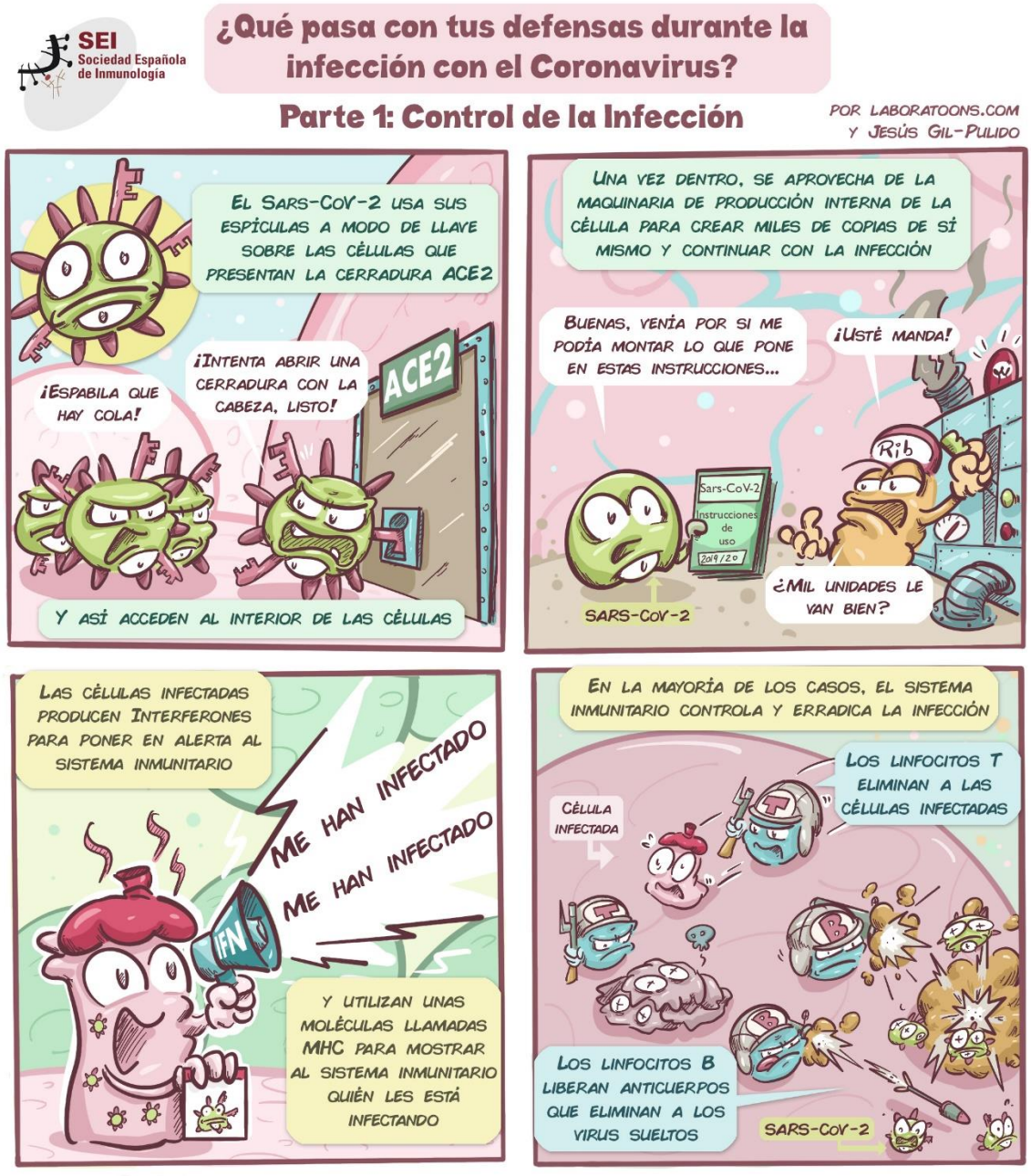


Figure 16 to 18: comics



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¿Qué pasa con tus defensas durante la infección con el Coronavirus?

Parte 2: La Tormenta Inmunitaria

POR LABORATOONS.COM
Y JESÚS GIL-PULIDO

SEI Sociedad Española de Inmunología

How does your immune system fight against the new coronavirus?

Part 3: Immunotherapies

BY LABORATOONS.COM & JESÚS GIL-PULIDO