be erased[4]. Afterward, a new antibody (secondary) will be added and linked to the first one to which an enzyme is fixed to. The last stage will consist of adding the specific substrate of the enzyme, that linked to the other will develop color and fluorescence, measured with a special spectrophotometer[8].

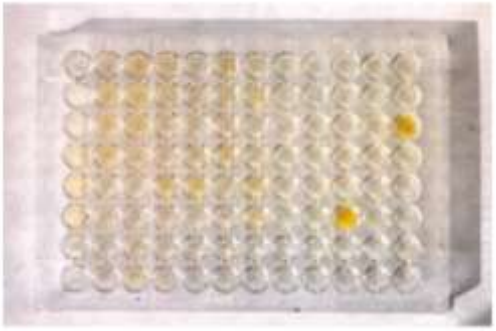

Fig. 3 ELISA plate

The **lateral flow assay method** is a procedure executed on a long rectangular glass plate, where the specific antibody that recognizes the GM protein (capture antibody) is fixed in one of the edges, while the secondary antibody (marked) is placed in the opposite edge [3]. The sample is added in this last edge and is forced to flow in the opposite direction. In a positive case, when the capture antibody coincides with the marked one in the presence of the GM protein, a colored band is formed. A second band of capture antibody that serves as reaction control, is placed, is arranged[6].

A method that detects GM genes

The polymerase chain reaction (PCR) is useful to directly detect the transgene. *Primers* (oligonucleotides) can be used for any of the elements that are part of the sequence. The use of a thermal cycler helps to get the amplification of the fragments, separated in an agarose gel according to their size. Dyeing with a fluorescent compound allows to easily identify the DNA fragment that is searched for [5].

A **Southern Blot** is also a very useful technique to detect weird genes. For that purpose, after extracting all the DNA of the plant where the transgene is searched, it is fragmented with restriction enzymes and separated in a gel because of its molecular size[2]. Afterward, the transference to a nylon membrane (or something similar) is made, and then, the only thing thas hs to be done is to reveal the presence of the gene that is searched, using a complementary sequence specially designed for that purpose, already marked with a radioactive isotope. Finally, the only thing left to do is to detect the radioactive compound that remains in the membrane if the problematic gene is present because otherwise it will be eliminated[1].

Fig. 4 Thermal cycler for PCR and Southern Blot

Current situation of transgenic plants cultivation

As it was mentioned before, since 1992, when the first GM cultivations of tobacco in China were made, it has been a long path. According to available data, which started to be public in 1996, by 2002 the whole amount of GM cultivated surface was almost 58,7 million hectares, certainly an extension larger than our country, increasing 12% more than the previous year and the sixth consecutive year with an increase of two numbers[4].

Today, practically 70% of the cultivated surface with genetically modified plants belongs to the United States, followed by Argentina with more than 23%, placing Canada in third place with 7% of the surface. An additional 1% corresponds to China and the rest is distributed in descending order among South Africa, Australia, Rumania, Mexico, Bulgaria, Spain, Germany, France, and Uruguay. If the set is divided into developed and developing countries, the ratio would be 3:1, approximately (75%:25%)[2].

The most common GM cultivations are soy, corn, cotton, and rapeseed; set that represented more than 20% of the total cultivated surface dedicated to these four products. In a relative form, around 40% of all the cultivated soy ys genetically modified, almost 10% of corn is GM, 16% of cotton is GM and about 11% of rapeseed is GM (cultivations in the year 2000, include 72 million hectares of soy, 140 of corn, 34 of cotton and 25 of rapeseed)[4]. Depending on the type, the percentage of the total surface dedicated to the cultivation of GM products was 58% in the case of soy, 23% in the case of corn, 12% in the case of cotton and 6% in the case of rapeseed[4]. Finally, if it is the character the parameter used, the cultivations resistant (tolerant) to herbicides have the most relative representation, with about 74% del total, followed by the cultivations resistant to insects with a 19% and an additional 7% where characters are overlapped in the same cultivations[7]. The GM products were approved for