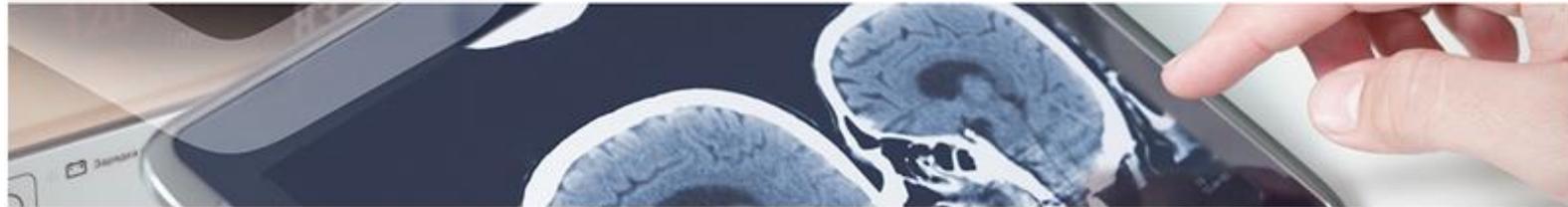


Diagnostics

Diagnostic kit for soft tissue cancer

A group of researchers from the Andalusian Public Health System, has developed a kit and method for detecting the rearrangement of STAT6 and/ or NAB2 genes useful for diagnosing cancer, specifically, soft tissue cancer.



Description of the offer

Bone and soft tissues sarcomas are rare but highly malignant tumors. Specifically, in the solitary fibrous tumor (SFT) and hemangiopericytoma (HPC), soft tissue tumors, a molecular alteration in the 12q13 chromosome consisting in an inversion followed by translocation of the NAB2 and STAT6 genes has been recently identified. Nevertheless, no specific diagnostic markers have been identified yet. This fact is important because about 10% of these tumors progress with an aggressive behavior with local recurrence and/ or distant metastases.

Chromosome banding, comparative genomic hybridization analysis and genomic-based arrays have not proven to be useful in determining such rearrangements. Next-generation sequencing (NGS) allows the identification of the NAB2/ STAT6 fusion gene in most cases, but not all, besides being a high-cost technology not easily accessible to many hospitals. On the other hand, there is only a commercially available antibody for immunohistochemistry (IHC) for overexpression of STAT6. Finally, specific sets of primers for RT-PCR are only available for research purposes. Therefore, it is necessary the development of new efficient diagnostic tools for these pathologies in order to detect STAT6 gene rearrangements through molecular cytogenetic or molecular biology studies.

The present kit and method comprises two probes, consisting of new specific oligonucleotides, using the technique of fluorescence in situ hybridization (FISH), which allows the detection of chromosomal alterations in interphase cells, which makes it particularly suitable for paraffin tissue. A preliminary validation study on samples of 53 patients with pathologic diagnosis of SFT and HPC has been completed.



Advantages of the offer

Higher sensitivity: FISH positivity rate to detect STS6 rearrangements is higher than with immunohistochemistry. This method enables detecting all possible rearrangements of these genes.

Mayor feasibility: Developed probes work very well with paraffin-embedded tissue and allow detecting the presence or absence of rearrangement in one step. In contrast, RT-PCR does not always work properly due to starting material (RNA), which can be degraded due to tissue fixation process. PCR also requires more time to detect each of the types of rearrangement that may be produced.



Intellectual Property

Kit and method comprising the use of new oligonucleotides protected by Spanish patent application, extensible to international patent application.



Objectives

We seek a partner interested in a license and/ or collaboration agreement to develop and exploit this innovative technology.



Classification

Area: Diagnosis
Pathology: Oncology and Hematology