Partnering Opportunity

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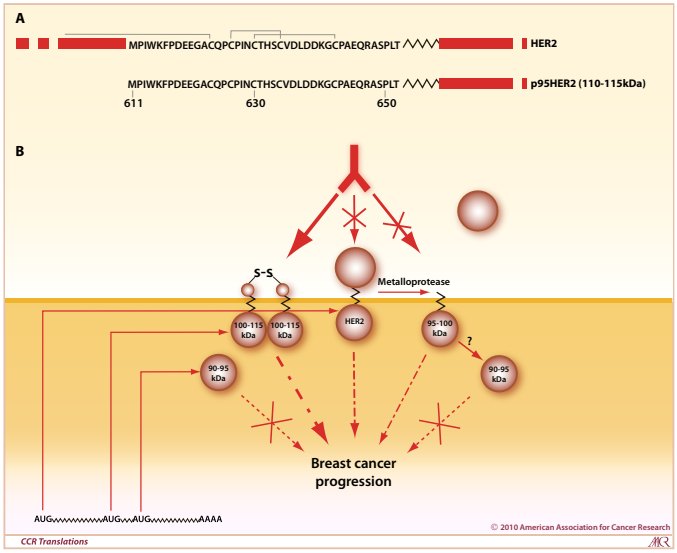
HER2-positive Breast Cancers

Breast cancer is the most frequent uncontrolled growth of breast cells among women from developed countries, and a heterogeneous disease. To date at least five types of breast cancers with distinct characteristics have been identified. One of these types, which accounts for approximately 20% of all breast cancers, is characterized by the presence of high levels of the human epidermal growth factor receptor or **HER2** (also known as ErbB2 or neu).

HER2-positive tumors are currently treated with monoclonal antibodies against HER2 (**herceptin**, also known as trastuzumab) or small molecule inhibitors that block its activity (lapatinib, also known as tykerb).

p95HER2 and Breast Cancer

Joaquín Arribas's research group has shown that a subtype of **HER2-positive** breast cancers with a particularly bad prognosis is characterized by the presence of a fragment of the protein **HER2** called **p95HER2**. These tumors have an aggressive behavior because **p95HER2** is much more active than **HER2**. Furthermore, because the **p95HER2** does not have the epitope recognized by herceptin, **p95HER2-positive** tumors tend to be resistant to the treatment with the antibody, although they respond to lapatinib.



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Technology

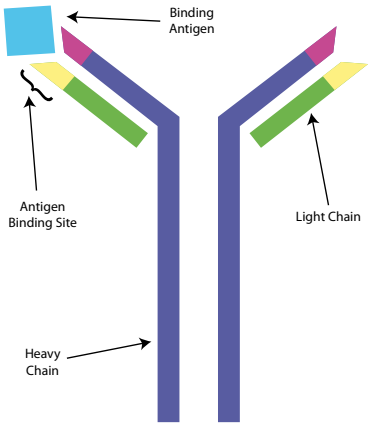
Joaquin Arribas's research group has developed monoclonal antibodies specific for **p95HER2**. The **anti-p95HER2** antibodies recognize epitopes exposed in **p95HER2** but masked within the tertiary structure of **HER2**. Therefore, one of the uses for these antibodies is the analysis of the presence of **p95HER2** in breast cancer patients.

The diagnostic use of these antibodies has been already licensed and currently a kit to determine the presence of **p95HER2** is under development.

However, the use of the **anti-p95HER2** antibodies for therapy is open for a partnering opportunity.

Advantages

- Potential treatment for breast cancer refractory tumors.
- The new antibodies will target **p95HER2**, which is not targeted by **herceptin**.
- Successful in vitro preliminary results.
- Tumor size was reduced in xenograft mouse models.



The Structure of an Antibody

Patents

- **ES200801652**: "Method for diagnosing cancer expressing the HER2 receptor or its truncated variants"
- **Priority date**: 02-06-2008
- **Worldwide application**: PCT (WO2010000565), United States, Korea, Japan, Spain

Looking for

Company/partners interested in the humanization and licensing the **anti-p95HER2** monoclonal antibodies.

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