Active immunization with a multi-peptide B cell vaccine, targeting Trastuzumab and Pertuzumab binding sites, prevents the formation of Her-2/neu expressing lung metastases

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**Background**
- We have developed a B cell-based hybrid peptide Her-2/neu vaccine (HerVaxx) comprising Trastuzumab’s binding site.
- In clinical evaluations HerVaxx has shown to reduce primary tumor growth by inducing polyclonal anti-tumor immune responses and immunological memory.
- Trastuzumab and Pertuzumab improve the clinical outcome of patients with Her-2/neu positive metastatic breast cancer.

**Aim**
- To evaluate the capacity of a multi-peptide B cell vaccine containing HerVaxx and the mimotope/B cell epitope of Pertuzumab in preventing metastases formation in a breast cancer mouse model.

**Methods**
- Active immunization with the multi-peptide vaccine and tail-vein injection with mammary carcinoma cells expressing human Her-2/neu
- Assessment of the level of metastasis in the mice lungs by histological evaluations.

**Conclusions**
- Our multi-peptide B cell Her-2/neu vaccine may serve as a secondary intervention in adjuvant settings to prevent tumor spread
- Combination therapy involving targeting PD-L1 may potentially result in the remission of the metastases.
- An alternately targeting Her-2/neu and PD-L1 could be adapted to the stage and progression phase of the disease.

**References**

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