Original Article Discusses EDC1 Therapy for Thyroid Cancer

MADISON, WI. January 31, 2017 – Research presenting the precise targeting of thyroid cancer using EDC1 was published online in this month's issue of *Oncotarget*.

The article entitled, "*Dysadherin specific drug conjugates for the treatment of thyroid cancers with aggressive phenotypes",* discusses the selective nature of Centrose's EDC1 drug lead in aggressive thyroid cancers, especially anaplastic thyroid cancers. The authors from the University of Wisconsin-Madison, the University of Alabama-Birmingham and Centrose, spell out how the EDC1 drug lead could be a specific and effective treatment for aggressive thyroid cancers where prognosis is dismal.

The worldwide incidence rate of thyroid cancer more than doubled since 1999 and more than tripled since 1973. While 80% of well-differentiated thyroid cancers are highly treatable, the other 20% as well as the undifferentiated thyroid cancers such as anaplastic thyroid cancers (ATCs), do not respond to conventional treatments, manifest with metastatic and/or recurrent disease, and lead to increased mortality. These aggressive thyroid cancers are still a clinical challenge and the research of new treatment strategies is ongoing.

The study led by Dr. Herb Chen, discusses years of work using drug technology developed at Centrose. The study comprehensively examined the expression of dysadherin (the antibody target for EDC1) in different types of thyroid pathologies and assessed the potential for EDC1 as a treatment for aggressive thyroid cancers. It included patient clinical pathologic data and samples approved by the University of Wisconsin's Institutional Review Board.

In more detail, the study showed that dysadherin was highly expressed in all ATCs and aggressive thyroid cancer cell lines. No expression was found in normal thyroid tissue and only weak expression in 1 of the 53 benign thyroid conditions examined. Specific to EDC1, the study demonstrated that at sub-nanomolar concentrations, EDC1 was selective and dose dependent at inhibiting thyroid cancer cell growth in culture. When cancer cells expressed moderate to high levels of dysadherin, cells died within 72 hours. When cells did not express dysadherin, they were unharmed.

Centrose has already tested the safety profile of EDCs in non-human primates, where EDC1 serum levels of 500 nanomolar was safely reached. This is approximately 1000-fold above the level needed to kill the cultured thyroid cancer cells and close to the toxic level seen for cultured for dysadherin positive normal cells. The next step will be to manufacture and test EDC1 in humans under FDA approval.

About Centrose

Centrose is a drug discovery company, committed to bringing the most-advanced precision therapies to patients afflicted by advanced forms of cancer and other difficult to treat diseases. Centrose created a new class of precision drugs, called EDCs, which give doctors the ability to place powerful medicines exactly where they want them. Precision therapy is a safer and more powerful treatment option because only diseased cells are affected; greatly reducing side-effects while increasing potency.

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