



Technology Offer

Ref.-No. M0521

Diagnostics for detecting *Ecto-5'-nucleotidase (CD73)*

Introduction

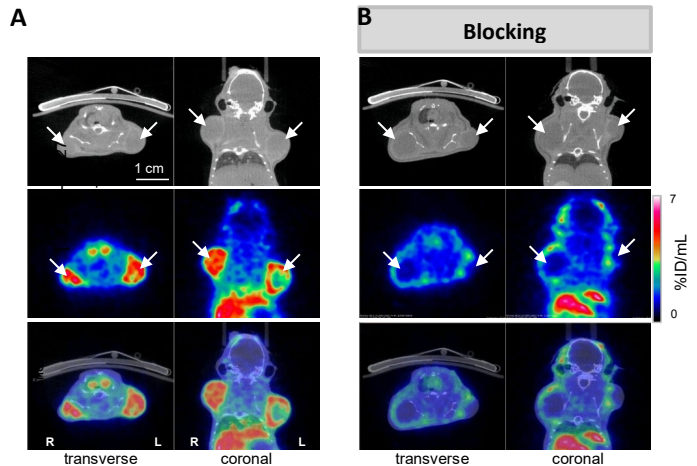
Ecto-5'-nucleotidase (CD73, eN) is an enzyme that catalyzes the dephosphorylation of extracellular AMP to adenosine. It can be found on the surface of many different cell lines like endothelia, stromal and cells of the immune system like lymphocytes and regulatory T-cells. Furthermore, CD73 is highly overexpressed on various tumor cells such as bladder, colon, ovarian, melanoma, pancreatic and breast cancer. CD73 represents a novel target for checkpoint inhibition in cancer immunotherapy and its expression is a promising biomarker for diagnosis and monitoring of therapies.

Invention

The present invention relates to radio- and fluorescence-labeled compounds, as well as their use as diagnostics for detecting *Ecto-5'-Nucleotidase (CD73)* expression. The invention is further directed to a pharmaceutical composition comprising said compounds as well as to the compounds and the pharmaceutical composition for use in a method of diagnosis of a disease associated with increased CD73 expression as well as in the treatment of a disease associated with increased CD73-expression, e.g., cancer.

Patent situation

A patent application has been filed.



In vivo PET imaging of ^{18}F -PSB-19427 in tumor bearing mice (s.c. MDA-MB-231 xenografts, left and right shoulder). Representative PET images 4h p.i. of ^{18}F -PSB-19427 demonstrate a pronounced accumulation of the tracer in the tumor xenografts (white arrows) that was diminished in a blocking study. Left: without blocker, right: pretreating with unlabeled compound 10 min before tracer injection

Advantages of the invention

The use of highly potent nucleotide-derived CD73 inhibitors as diagnostic tools bearing fluorescent, ultrasonic labels or radionucleotides might ease the early localization of primary tumors and metastasis in e.g. triple-negative breast cancer.

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