INTRODUCTION

About 80% of patients with advanced prostate, breast, and lung cancer develop bone metastases, which cause significant morbidity by including chronic pain and pathological fractures.

Patients with bone metastases have a poor prognosis, and currently there is no curative treatment due to the arterial bleeding at this site and remissions of bone. A wide range of growth factors promote tumor cell survival and tumor cells stimulate bone remodeling (Figure 1).

RESULTS

About 90% of patients with advanced prostate, breast, and lung cancer develop bone metastases, which cause significant morbidity by including chronic pain and pathological fractures.

Patients with bone metastases have a poor prognosis, and currently there is no curative treatment due to the arterial bleeding at this site and remissions of bone. A wide range of growth factors promote tumor cell survival and tumor cells stimulate bone remodeling (Figure 1).

Pharmacological profile of PI3K bone resorption characteristic of bone metastasis diseases

Activation of PI3K (e.g. PTEN-loss, membrane receptor

BAY 1082439 is a highly selective and potent PI3K

MCF10A (PIK3CAmut) 23.6

KPL-4 (PIK3CAmut) 52.0

Inhibition of cellular p-AKT IC50 (nM)

51.0

PI3K

PI3K

Figure 2. Pharmacological profile of PI3K

A

B

Vehicle

BAY 1082439 75 mg/kg QD p.o.

Radium-223 300 kBq/kg once i.v.

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Figure 3. Pharmacological profile of PI3K

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B

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