

# Radium-223: evaluation of activity and surrogate response

<b>Submission date</b>	<b>Recruitment status</b>	<input checked="" type="checkbox"/> Prospectively registered
21/01/2015	No longer recruiting	<input type="checkbox"/> Protocol
<b>Registration date</b>	<b>Overall study status</b>	<input type="checkbox"/> Statistical analysis plan
21/01/2015	Completed	<input checked="" type="checkbox"/> Results
<b>Last Edited</b>	<b>Condition category</b>	<input type="checkbox"/> Individual participant data
21/01/2026	Cancer	

## Plain English summary of protocol

<https://www.cancerresearchuk.org/about-cancer/find-a-clinical-trial/a-trial-of-a-new-way-to-see-how-well-radium-223-is-working-reasure>

## Contact information

### Type(s)

Scientific

### Contact name

Ms Dalia Ismail

### Contact details

The Institute for Cancer Research  
15 Cotswold Road  
Sutton  
United Kingdom  
SM2 5NG

## Additional identifiers

### Clinical Trials Information System (CTIS)

2013-004055-20

### Protocol serial number

17391

## Study information

### Scientific Title

A phase II randomised trial of biomarkers to assess (dose) response in patients with metastatic castration resistant prostate cancer treated with radium-223

## **Acronym**

REASURE

## **Study objectives**

The aim of this trial is to identify potential markers of response to treatment with radium-223 in patients with castration-resistant prostate cancer with bone metastases.

## **Ethics approval required**

Old ethics approval format

## **Ethics approval(s)**

London Surrey Borders, 23/09/2014, ref: 14/LO/1385

## **Study design**

Randomised; Interventional; Design type: Treatment

## **Primary study design**

Interventional

## **Study type(s)**

Treatment

## **Health condition(s) or problem(s) studied**

Prostate cancer

## **Interventions**

Patients will be randomised to receive either 50kBq/kg or 80kBq/kg of radium 223. Patients in both arms will receive radium-223 every 4 weeks for up to 6 treatments. Follow up will be from 4 weeks after the last administration of radium-223. Patients will be evaluated every four months until 1 year after last administration.

## **Intervention Type**

Other

## **Primary outcome(s)**

The proportion of patients showing bone metastases response on diffusion weighted MRI (DW-MRI). From pre-treatment to any point after 1st injection and the end of cycle 6 will be used to define response.

## **Key secondary outcome(s)**

N/A

## **Completion date**

01/12/2018

## **Eligibility**

## **Key inclusion criteria**

1. Histologically or cytologically confirmed adenocarcinoma of the prostate.
2. Known castration resistant disease defined as:
  - 2.1. Castrate serum testosterone level: = 50 ng/dL (2.0nM)
  - 2.2. Bilateral orchidectomy or on maintenance androgen ablation therapy with LHRH agonist or polyestradiol phosphate throughout the study
- 2.3. Serum PSA progression defined by PCWG II criteria (i.e. two consecutive increases in PSA over a previous reference value, each measurement taken at least 1 week apart)
3. Serum PSA value = 2 ng/mL
4. Available ALP result from a blood sample taken within previous 8 weeks
5. Multiple skeletal metastases (= 2 hot spots) on bone scintigraphy within previous 12 weeks
6. Age =16 years
7. ECOG performance status 0-2.
8. Life expectancy = 6 months.
9. No prior chemotherapy for CRPC (adjuvant chemotherapy for hormone naïve disease is permissible).
10. Adequate laboratory requirements:
  - 10.1. Absolute neutrophil count (ANC) greater than or equal to  $1.5 \times 10^9/L$
  - 10.2. Platelet count greater than or equal to  $100 \times 10^9/L$
  - 10.3. Haemoglobin greater than or equal to 10.0 g/dL (100 g/L; 6.2 mmol/L)
  - 10.4. Total bilirubin level less than or equal to 1.5 institutional upper limit of normal (ULN)
  - 10.5. ASAT and ALAT less than or equal to  $2.5 \times ULN$
  - 10.6. Creatinine less than or equal to  $1.5 \times ULN$
  - 10.7. Albumin greater than 30 g/L
11. Willing and able to comply with the protocol, including all assessments, scans, procedures, followup visits and examinations
12. Must be fully informed about the study and has signed the informed consent form

## **Participant type(s)**

Patient

## **Healthy volunteers allowed**

No

## **Age group**

Adult

## **Sex**

Male

## **Total final enrolment**

36

## **Key exclusion criteria**

1. Any prior radioisotope therapy
2. Surgery, radiation, chemotherapy, or other anticancer therapy within four weeks prior to randomisation into the study with the exception of LHRH agonists
3. Intention to commence cytotoxic chemotherapy within six months
4. Prior other malignancy within three years. Adequately treated basal cell or squamous cell skin or superficial (pTis, pTa, and pT1) bladder cancer are allowed
5. Treatment with any investigational drug within 30 days prior to randomisation into the study

6. History of visceral metastasis, or visceral metastases, as assessed by chest/abdominal/pelvic CT within previous 8 weeks
7. Malignant lymphadenopathy exceeding 1.5 cm in short-axis diameter
8. Known brain or leptomeningeal involvement
9. Imminent/established spinal cord compression based on clinical findings/MRI (can be re-screened following appropriate treatment)
10. Blood transfusion or erythropoietin stimulating agents within the four weeks prior to randomisation
11. Faecal incontinence
12. Unsuitable for MRI (patient refusal or clinical contra-indication)
13. Inadequate organ or bone marrow function
14. Any other serious illness or medical condition

**Date of first enrolment**

30/01/2015

**Date of final enrolment**

30/06/2017

## Locations

**Countries of recruitment**

United Kingdom

England

**Study participating centre**

**The Institute for Cancer Research**

15 Cotswold Road

Sutton

England

SM2 5NG

## Sponsor information

**Organisation**

Royal Marsden NHS Foundation Trust

**ROR**

<https://ror.org/0008wzh48>

**Organisation**

The Institute for Cancer Research

# Funder(s)

## Funder type

Industry

## Funder Name

Bayer Pharmaceuticals Plc (UK)

# Results and Publications

## Individual participant data (IPD) sharing plan

The datasets generated during and/or analysed during the current study are/will be available upon request from [reasure-icrcts@icr.ac.uk](mailto:reasure-icrcts@icr.ac.uk)

## IPD sharing plan summary

Available on request

## Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Results article</a>	Fracture risk	01/04/2021	07/05/2021	Yes	No
<a href="#">Results article</a>	Disease response in bone	03/10/2023	04/10/2023	Yes	No
<a href="#">HRA research summary</a>			28/06/2023	No	No
<a href="#">Participant information sheet</a>	Participant information sheet	11/11/2025	11/11/2025	No	Yes