

Contact Information

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Project Requirements and Description

Requirements to submit AOI (all answers must be "yes" to proceed)

A comprehensive review of previously published data has been completed	Yes
The specific aims are clear and focused	Yes
The investigator has appropriate experience and expertise to develop the concept proposal; if not, has identified a mentor or senior co-investigator.	Yes
The investigator agrees to develop an initial draft of the concept proposal within 6 weeks of approval of the AOI and to finalize the concept proposal within 6 months	Yes

Project Title Whole-genome sequencing of the youngest osteosarcoma cases using our current dataset plus in-house CCSS cases

Planned research population (eligibility criteria)

We have determined that osteosarcoma cases carrying a germline pathogenic/likely pathogenic (P/LP) variant were significantly younger than cases without a P/LP variant, and the youngest cases, aged 0-10 years, had the highest frequency of autosomal dominant P/LP variants (25% of cases) (Mirabello et al, *JAMA Oncology*, 2020). We hypothesize that the youngest cases, aged 0-10, have other genomic events or structural variants (e.g., deletions, copy number changes, rearrangements) that predisposed them to osteosarcoma. There are 41 CCSS first primary osteosarcoma cases aged 0-10 years without a detected pathogenic mutation using exome sequencing with DNA available in our NCI-CGR laboratory storage that we would like to request for whole genome sequencing.

Proposed specific aims

To determine if young children (age < 10 years old) who previously underwent exome sequencing have an undetected germline genomic event or structural variant that predisposed them to osteosarcoma using whole-genome sequencing.

Will the project require non-CCSS funding to complete?

No

Does this project require contact of CCSS study subjects for:

Biological samples	No

What CCSS Working Group(s) would likely be involved? (Select all that apply)

Chronic Disease	
Genetics	Primary
Epidemiology/Biostatistics	Secondary

Outcomes or Correlative Factors

Late Mortality	Correlative Factors
Second Malignancy	Correlative Factors

Medications Demographic

Age	Correlative Factors
Race	Correlative Factors
Sex	Correlative Factors
Other	Correlative Factors

Anticipated Sources of Statistical Support

CCSS Statistical Center	No
Local Institutional Statistician	Yes

Will this project utilize CCSS biologic samples?

Yes

If yes, which of the following?

Other requiring collection of samples

If other, please explain

This project is requesting to use osteosarcoma cases with available in-house DNA.

Other General Comments

Agree

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