

The caBIO object model is large and complex, and only a subset of the objects are associated with the Cancer Gene Index. These objects and their associations are shown below. Blue classes are core biological entities (gene, disease, and compound), whereas green classes are annotations on the core entities. The full model is available on [NCI SVN](#), but you must have the [Enterprise Architect](#)

```

classDiagram
    class Gene {
        +bigid: String
        +clusterId: Long
        +fullName: String
        +hugoSymbol: String
        +id: Long
        +symbol: String
    }
    class GeneFunctionAssociation {
        +bigid: String
        +id: Long
        +role: String
        +source: String
    }
    class Evidence {
        +bigid: String
        +cellLineStatus: String
        +comments: String
        +id: Long
        +negationStatus: String
        +pubmedId: Integer
        +sentence: String
        +sentenceStatus: String
    }
    class GeneOntology {
        +bigid: String
        +id: Long
        +name: String
    }
    class GeneAlias {
        +bigid: String
        +id: Long
        +name: String
        +type: String
    }
    class DiseaseOntology {
        +bigid: String
        +EVSId: String
        +id: Long
        +name: String
    }
    class DiseaseOntologyRelationship {
        +bigid: String
        +id: Long
        +type: String
    }
    class Agent {
        +absorption: String
        +bigid: String
        +biotransformation: String
        +casNumber: String
        +chemicalFormula: String
        +comment: String
        +drugbankAccession: String
        +EVSId: String
        +halfLife: String
        +id: Long
        +indication: String
        +isCMAPAgent: Boolean
        +IUPACName: String
        +mechanismOfAction: String
        +molecularWeight: Double
        +name: String
        +NSCNumber: Long
        +percentProteinBinding: String
        +pharmacology: String
        +pubchemCompoundId: Long
        +pubchemSubstanceId: Long
        +SMILESCode: String
        +source: String
        +toxicity: String
    }
    class AgentAlias {
        +id: Long
        +name: String
        +type: String
    }
    class EvidenceCode {
        +bigid: String
        +evidenceCode: String
        +id: Long
    }

    Gene "0..1" -- "0..*" GeneFunctionAssociation : +gene
    GeneFunctionAssociation "0..*" -- "0..*" Evidence : +geneFunctionAssociationCollective +evidenceCollection
    Gene "0..*" -- "0..*" GeneOntology : +geneOntologyCollection
    Gene "0..*" -- "0..*" GeneAlias : +geneAliasCollection
    GeneFunctionAssociation "0..*" -- "0..*" GeneDiseaseAssociation : +geneFunctionAssociationCollection
    GeneFunctionAssociation "0..*" -- "0..*" GeneAgentAssociation : +geneFunctionAssociationCollection
    GeneDiseaseAssociation "0..*" -- "0..*" DiseaseOntology : +parentDiseaseOntologyRelationshipCollection
    GeneDiseaseAssociation "0..*" -- "0..*" DiseaseOntologyRelationship : +childDiseaseOntologyRelationshipCollection
    DiseaseOntology "0..1" -- "0..*" DiseaseOntologyRelationship : +childDiseaseOntology
    DiseaseOntologyRelationship "0..*" -- "0..*" Agent : +agent
    Agent "0..*" -- "0..*" Evidence : +evidenceCollection
    Agent "0..*" -- "0..*" AgentAlias : +agentAliasCollection
    Evidence "0..*" -- "0..*" EvidenceCode : +evidenceCodeCollection
    GeneOntology "0..1" -- "0..*" GeneOntologyRelationship : +parentGeneOntologyRelationshipCollection
    GeneOntologyRelationship "0..*" -- "0..*" GeneOntology : +parentGeneOntologyRelationshipCollection

```

