Role	Use Case / Requirement	Notes
Anatomic_Structure_Has_Location		
Anatomic_Structure_is_Physical_Part_Of		
Biological_Process_Has_Associated_Location		
Biological_Process_Has_Initiator_Chemical_or_Drug		Added 2004MARCH08
Biological_Process_Has_Initiator_Process		Added 2004MARCH08
Biological_Process_Has_Result_Anatomy		Added 2004MARCH08
Biological_Process_Has_Result_Biological_Process		Added 2004MARCH08
Biological_Process_Has_Result_Chemical_or_Drug		Added 2004MARCH08
Biological_Process_Is_Part_Of_Process		
Chemical_or_Drug_Affects_Gene_Product	4/6 4/8 5/7 12/1	Partially satisfies 5/7. Transitive w/ Gene_Product_Is_Pathway_Element. Modified (CD_ = Chemical_or_Drug_) 2004MARCH08 . Inclusion pending CCR approval.
Chemical_or_Drug_Effects_Cell_Type_Or_Tissue		Modified (CD_ = Chemical_or_Drug_) 2004MARCH08
Chemical_or_Drug_Has_Accepted_Therapeutic_Use_For		Modified (CD_ = Chemical_or_Drug_) 2004MARCH08
Chemical_or_Drug_Has_Mechanism_OF_Action	12/1	Modified (CD_ = Chemical_or_Drug_) 2004MARCH08
Chemical_or_Drug_Has_Physiological_Effect		Modified (CD_ = Chemical_or_Drug_) 2004MARCH08
Chemical_or_Drug_Has_Study_Therapeutic_Use_For		Modified (CD_ = Chemical_or_Drug_) 2004MARCH08
Chemical_or_Drug_Has_Target_Protein		Will be replaced with CD_Affects_Gene_Product. Deprecation pending CCR approval
Chemical_or_Drug_Metabolized_by_Enzyme		Modified (CD_ = Chemical_or_Drug_) 2004MARCH08
Chemical_or_Drug_Used_In_Technique	8/5	Modified (CD_ = Chemical_or_Drug_) 2004MARCH08 Inclusion pending CCR approval.
Chemotherapy_Regimen_Has_Component		Modified 2004MARCH08
Conceptual_Part_Of		
Disease_Has_Abnormal_Cell		OC disease modelers 12/23/03 - Defining Role
Disease_Has_Finding		OC disease modelers 12/23/03 - Defining Role
Disease_Has_Cytogenetic_Abnormality	11/1	OC disease modelers 12/23/03 - Defining Role
Disease_Has_Molecular_Abnormality	11/1	OC disease modelers 12/23/03 - Defining Role
Disease_Has_Normal_Cell_Origin		OC disease modelers 12/23/03 - Defining Role
Disease_Has_Normal_Tissue_Origin		OC disease modelers 12/23/03 - Defining Role
Disease_Has_Metastatic_Anatomic_Site		OC disease modelers 12/23/03 - Defining Role
Disease_Has_Primary_Anatomic_Site		OC disease modelers 12/23/03 - Defining Role
Disease_Has_Associated_Anatomic_Site		OC disease modelers 12/23/03 - Defining Role
Disease_Is_Stage		OC disease modelers 12/23/03 - Defining Role
Disease_Is_Grade		OC disease modelers 12/23/03 - Defining Role
Disease_Has_Modifier		Added 2004MARCH08 Removal pending review by LW
Disease_Metastatic_to_Site		Added 2004MARCH08 Removal pending review by LW
Disease_May_Have_Normal_Cell_Origin		OC disease modelers 12/23/03 - Non-defining Role
Disease_May_Have_Normal_Tissue_Origin		OC disease modelers 12/23/03 - Non-defining Role
Disease_May_Have_Abnormal_Cell		OC disease modelers 12/23/03 - Non-defining Role
Disease_May_Have_Cytogenetic_Abnormality		OC disease modelers 12/23/03 - Non-defining Role
Disease_May_Have_Molecular_Abnormality	11/1	OC disease modelers 12/23/03 - Non-defining Role
Disease_May_Have_Finding		OC disease modelers 12/23/03 - Non-defining Role
EO_Anatomic_Structure_is_Physical_Part_of	9/1	
EO_Derived_by_Technique		Added 2004MARCH08
EO_Develops_Disease		Added 2004MARCH08
EO_Anatomy_Found_In_Organism	9/2 9/4	DROPPED !!!
EO_Disease_Has_Associated_Cell_Type	9/3	
EO_Disease_Has_Associated_EO_Anatomy	9/3	
EO_Disease_Has_Property_or_Attribute	9/5	
EO_Disease_Maps_to_Human_Disease	9/2	

EO_Exhibits_Gene_Anomaly	5/8	Partially satisfies 5/8 DROPPED !!!
EO_Disease_Metastatic_to_EO_Anatomy		Added 2004MARCH08
EO_Models_Human_Disease		Added 2004MARCH08
Gene_Expressed_In_Tissue		NOT IN DTD 2004MARCH08
Gene_Anormaly_has_Disease-Related_Function	1/1 2/2 3/2 3/4	subsumes Gene_Assoc_w_Disease relationship NOT YET CHANGED IN DTD
Gene_Found_In_Organism	2/1 3/1 4/3 6/2	Additional role needed to relate organism and EO?
Gene_Has_Anomaly	1/2* 2/3* 2/5 3/5* 4/4	
Gene_Has_Clone	5/9	Gene clone concepts to be Gene_Kind NOT IN DTD 2004MARCH08
Gene_Has_Expression_Measurement	7/2	Partially satisfies 7/2 NOT IN DTD 2004MARCH08
Gene_Has_Function	1/1 2/1 3/1 4/1 5/1 5/3	Normal function. **Defined w/ GO tags.**
Gene_In_Chromosomal_Location		
Gene_is_Biomarker_of	1/1 2/2 3/2 3/4	
Gene_Is_Biomarker_Type		
Gene_Is_Pathway_Element	5/3 5/2 5/5	NOT IN DTD 2004MARCH08
Gene_Plays_Role_in_Process		
Gene_Product_Anomaly_Affects_Pathway	4/9 5/7	Partially satisfies 5/7. D/N indicate effect on specific genes in pathway, just pathway as a whole NOT IN DTD 2004MARCH08
Gene_Product_Anomaly_Related_to_Gene_Anomaly	1/3 2/4 2/5 4/5	NOT IN DTD 2004MARCH08
Gene_Product_Encoded_By_Gene	1/3	
Gene_Product_Expressed_in_Tisue		
Gene_Product_Has_Associated_Anatomy		
Gene_Product_Has_Biochemical_Function	4/2 5/2	Describes g_p enzymatic or cellular function. Need a role to cover abnormal or disease related functional relationships, not normal relationships
Gene_Product_Has_Chemical_Classification		
Gene_Product_Has_Malfunction_Type	1/3 11/1	
Gene_Product_Has_Organism_Source		
Gene_Product_Has_Structural_Domain_or_Motif	4/2	
Gene_Product_is_Biomarker_of	3/3	
Gene_Product_is_Biomarker_Type		
Gene_Product_Is_Pathway_Element	2/4 2/5 4/6 11/1	Use Biocarta pathway names: 5/2 ^^ NOT IN DTD 2004MARCH08
Gene_Product_Is_Physical_Part_Of		
Gene_Product_Malfunction_Associated_With_Disease	1/3 3/3 11/1	
Gene_Product_Plays_Role_in_Biological_Process	5/3	UC/R appears to requires 2nd role also, Gene_Has_Function
Modality_Has_Associated_Attribute	8/5 10/5	
Modality_Has_Associated_Equipment	8/4 10/5	
* Molecular_Anomaly_Kind	1/2	
		~ Requires qualification of role: citation or other authority
? Do we need an EO_Kind?		Relation from Organism to EO? Oragnism_Is_EO? Branch of Organism tree "EO"? Something is missing here anyway…
^^ Use Biocarta names in Pathway_Kind	2/4 2/5 4/6	
		5/6 is out of scope. 5/7 and 5/8 are partially out of scope.