

This treemap visualizes the hierarchical structure of Gene Ontology (GO) terms for the molecular function domain. The terms are color-coded by category: blue for catalytic activity, green for binding, red for transport, orange for structural molecule activity, purple for signal transduction, yellow for enzyme regulation, and pink for other molecular functions. The size of each rectangle represents the number of genes associated with that term. The treemap is organized into several main branches, including catalytic activity, binding, transport, structural molecule activity, signal transduction, enzyme regulation, and other molecular functions. The 'catalytic activity' branch is the largest, followed by 'binding' and 'transport'. The 'signal transduction' branch is also prominent, particularly in the lower right. The 'enzyme regulation' branch is highlighted in yellow, and the 'other molecular functions' branch is highlighted in pink.

Category	GO Term	Count
Catalytic Activity (Blue)	ATP hydrolysis activity	100
	hydrolase activity, acting on glycosyl bonds	80
	ATP hydrolysis activity, hydrolyzing O-glycosyl compounds	70
	phosphatase activity	60
	isomerase activity	50
	ligase activity	40
	carbohydrate binding	30
	acid-amino acid ligase	20
	acid ligase activity	10
	acid ligase activity	10
Binding (Green)	protein binding	150
	transcription cis-regulatory region binding	100
	transcription cis-regulatory region binding	80
	nucleic acid binding	70
	mRNA binding	60
	heme binding	50
	translation initiation factor activity	40
	centromeric DNA binding	30
	minor groove of adenine-thymine-rich DNA binding	20
	DNA-binding transcription factor activity	10
Transport (Red)	antiporter activity	80
	membrane insertase activity	70
	carboxylic acid transporter activity	60
	oligopeptide transmembrane transporter activity	50
	organophosphate ester transmembrane transporter activity	40
	P-type protein-exporting transporter activity	30
	nucleotide-sugar transmembrane transporter activity	20
	ATPase-coupled intramembrane lipid transporter activity	10
	hydrolase activity, acting on carbon-nitrogen (but not peptide) bonds, in linear amides	10
	hydrolase activity, acting on carbon-nitrogen (but not peptide) bonds	10
Structural Molecule Activity (Orange)	guanylate cyclase activity	80
	pectate lyase activity	70
	carboxy-lyase activity	60
	auxin binding	50
	GTPase activator activity	40
	protein-macromolecule adaptor activity	30
	structural constituent of chromatin	20
	protein sequestering activity	10
	electron transporter, transferring electrons within cytochrome b6-f complex of photosystem II activity	10
	electron transporter, transferring electrons within cytochrome b6-f complex of photosystem II activity	10
Signal Transduction (Purple)	protein kinase activity	100
	acyltransferase activity	80
	ubiquitin protein ligase activity	70
	cellulose synthase (UDP-forming) activity	60
	glutathione transferase activity	50
	hydroxycinnamoyltransferase activity	40
	mannan synthase activity	30
	MAP kinase kinase activity	20
	sulfate adenylyltransferase (ATP) activity	10
	transferase activity, transferring phosphorus-containing groups	10
Enzyme Regulation (Yellow)	protein kinase activity	100
	serine-type peptidase activity	80
	transaminase activity	70
	glycosyltransferase activity	60
	protein kinase activity	50
	protein kinase activity	40
	protein kinase activity	30
	protein kinase activity	20
	protein kinase activity	10
	protein kinase activity	10
Other Molecular Functions (Pink)	transcription cis-regulatory region binding	100
	transcription cis-regulatory region binding	80
	nucleic acid binding	70
	mRNA binding	60
	heme binding	50
	translation initiation factor activity	40
	centromeric DNA binding	30
	minor groove of adenine-thymine-rich DNA binding	20
	DNA-binding transcription factor activity	10
	DNA binding	10