# KEGG Orthology (KO)

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- Integrar a informação genômica às redes protéicas através dos números EC.
- Utiliza identificadores comuns nos genomas e nas vias metabólicas.
- Grupos eram formados por análise manual de um banco de similaridades combinada com características evolutivas.
- Informação propagada utilizando ferramentas computacionais (KOALA)
- Peça chave para o sistema hierárquico do KEGG.
- 18949 KOs com 5320103 proteínas.

## **Exemplo: Kegg Orthology**





### ORTHOLOGY K00134

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	1 tolp		
Entry	K00134 KO		
Name	GAPDH, gapA		
Definition	glyceraldehyde 3-phosphate dehydrogenase [EC:1.2.1.12]		
Pathway	ko00010 Glycolysis / Gluconeogenesis ko00710 Carbon fixation in photosynthetic organisms ko01200 Carbon metabolism		
	ko01230 Biosynthesis of amino acids ko04066 HIF-1 signaling pathway ko05010 Alzheimer's disease		
Module	M00001 Glycolysis (Embden-Meyerhof pathway), glucose => pyruvate M00002 Glycolysis, core module involving three-carbon compounds M00003 Gluconeogenesis, oxaloacetate => fructose-6P M00165 Reductive pentose phosphate cycle (Calvin cycle) M00166 Reductive pentose phosphate cycle, ribulose-5P => glyceraldehyde-3P M00308 Semi-phosphorylative Entner-Doudoroff pathway, gluconate => glycerate-3P M00552 D-galactonate degradation, De Ley-Doudoroff pathway, D-galactonate => glycerate-3P		
Brite	KEGG Orthology (KO) [BR:ko00001]  Metabolism  Overview  01200 Carbon metabolism  K00134 GAPDH, gapA; glyceraldehyde 3-phosphate dehydrogenase  01230 Biosynthesis of amino acids  K00134 GAPDH, gapA; glyceraldehyde 3-phosphate dehydrogenase  Carbohydrate metabolism  00010 Glycolysis / Gluconeogenesis  K00134 GAPDH, gapA; glyceraldehyde 3-phosphate dehydrogenase  Energy metabolism  00710 Carbon fixation in photosynthetic organisms  K00134 GAPDH, gapA; glyceraldehyde 3-phosphate dehydrogenase		

### All links

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Ontology (6)
   KEGG BRITE (4)
   GO (1)
   COG (1)
Pathway (8975)
   KEGG PATHWAY (16)
   KEGG MODULE (8959)
Chemical reaction (3)
   KEGG ENZYME (1)
   KEGG REACTION (1)
   KEGG RCLASS (1)
Gene (122181)
   KEGG GENES (5504)
   KEGG DGENES (103)
   KEGG MGENES (95962)
   RefGene (18801)
   EGENES (1605)
   OC (206)
Protein sequence (3206)
   UniProt (3067)
   SWISS-PROT (139)
Literature (2)
   PubMed (2)
All databases (134373)
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