**Table S1. Key functionalities in various AGEs.**

Listed in the table below are four popular AGEs: BASys, ISGA, RAST and xBASE (listed non-alphabetically). For each engine, a selection of key features and functionalities (underlying tools) is indicated, as well as each AGE's most important underlying databases. The data was gathered from published literature and from online documentation.

| Engine Name | Asgard | CodonW | CRITICA | Glimmer | Alternative ORF Predictor Available? | HMMPFAM | HOMODELLER | MAST | PredictSPTM | PROSITE | PSIPRED | RNAmmer | tRNAscan-SE | VADAR | Underlying Database ¶ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ISGA (Ergatis)** | X | | | X (v3) | No | X | | X | | | | X | X | | RS, RT, GB, TF CO, PF, SP, CC |
| **RAST** | | | | X (v3) | Yes (RAST) | | | | | | | | X | | PF, FF |
| **BASys** | | | X | X (v2.1) | No | | X | X | X | X | | | | X | RS, UP, P, KG CC, PB, PF |
| **xBASE (coliBASE)** | | X | | X (v3) | No | | | | | X | | X | X | | RS, UP, GB |

¶ COG: CO; CyberCellDB: CC; FIGfam: FF; Genbank: GB; PDB: PB; Pfam: PF; RegTransBase: RT; SwissProt: SP; TIGRFAM: TF; UniProt: UP; UniRef: UR; RefSeq (NCBI): RS. # Asgard: metabolic pathway reconstruction; CodonW: analysis of codon and amino acid usage; CRITICA: Coding Region Identification Tool Invoking Comparative Analysis; GLIMMER: ORF prediction; HMMER: profile hidden Markov models; HMMPFAM: HMM search against the PFAM database; HOMODELLER: predicts protein 3D structures; LipoP: predicts Gram-negative lipoprotein signal peptides, other signal peptides and n-terminal membrane helices; MAST: transcription factor binding site prediction; PredictSPTM: signal peptide prediction based on HMM alignments of SignalP predicted signal peptides; PROSITE: protein motif analysis; PSIPRED: protein structure prediction server; RNAmmer: prediction of RNA-coding genes; tRNAscan-SE: tRNA prediction; VADAR: Volume Area Dihedral Angle Reporter; compilation of over 15 algorithms to assess peptide and protein structures from PDB data.