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# Cellular functions of eukaryotic RNA helicases and their links to human diseases

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*Katherine E. Bohnsack<sup>(1)</sup>, Soon Yi<sup>(2,3)</sup>, Sarah Venus<sup>(2,3)</sup>,  
Eckhard Jankowsky<sup>(2,3,4)</sup> & Markus T. Bohnsack<sup>(1,5,6)</sup>*

- (1) Department of Molecular Biology, University Medical Center Göttingen  
Göttingen, Germany
- (2) Center for RNA Science and Therapeutics, School of Medicine,  
Case Western Reserve University, Cleveland OH
- (3) Department of Biochemistry, School of Medicine,  
Case Western Reserve University, Cleveland OH
- (4) Case Comprehensive Cancer Center, School of Medicine,  
Case Western Reserve University, Cleveland OH
- (5) Göttingen Centre for Molecular Biosciences, University of Göttingen, Göttingen,  
Germany
- (6) Max Planck Institute for Multidisciplinary Sciences, Göttingen, Germany

Corresponding authors: M.T.B. [markus.bohnsack@medizin.uni-goettingen.de](mailto:markus.bohnsack@medizin.uni-goettingen.de); E.J. [exj13@case.edu](mailto:exj13@case.edu); K.E.B. [katherine.bohnsack@med.uni-goettingen.de](mailto:katherine.bohnsack@med.uni-goettingen.de)

## Supplementary Table 1 | **Cellular functions of RNA Helicases and their links to diverse cancers.**

Left side: Red squares indicate involvement of a given helicase in the indicated stages of RNA metabolism. Helicases are ordered according to phylogeny. Green squares indicate the presence of IDRs (RGG rich, or Q rich) in a given helicase, and whether a helicase has been shown to be present in cellular condensates, undergo LLPs *in vitro*, or both (RGG rich: RG or RGG sequences separated by maximal 4 amino acids; Q-rich motif  $\geq 3$  consecutive Q). Right side: RNA helicase links to cancers, grouped based on human anatomy and originating cell lineages (Brain cancer: glioma, glioblastoma, medulloblastoma; Head and neck cancer: head and neck squamous cell carcinoma, oral squamous cell carcinoma, hypopharynx carcinoma, nasopharyngeal carcinoma, salivary gland adenoma, laryngeal carcinoma, thyroid cancer, papillary thyroid carcinoma, oral cancer; Eye cancer: uveal melanoma; Lung cancer: lung adenocarcinoma, lung squamous cell carcinoma, non-small cell lung carcinoma, pulmonary blastoma; Pancreatic cancer: pancreatic adenocarcinoma, pancreatic ductal adenocarcinoma, pancreatic adenosquamous carcinoma; Gallbladder cancer: gallbladder squamous cell carcinoma, gallbladder adenosquamous carcinoma, gallbladder adenocarcinoma; Endometrial/Uterine cancer: endometrial carcinoma, endometrioid endometrial carcinoma, endometrial serous carcinoma; Ovarian cancer: ovarian cancer, epithelial ovarian cancer, juvenile granulosa cell tumor; Testicular cancer: testicular germ cell carcinoma, testicular embryonal carcinoma; Kidney cancer: renal cell carcinoma, clear-cell renal cell carcinoma; Adrenal cancer: neuroblastoma; Skin cancer: squamous cell carcinoma, basal cell carcinoma, melanoma; Leukemia: acute/chronic lymphocytic leukemia, acute/chronic myeloid leukemia, myelodysplastic syndrome, aggressive NK cell leukemia; Myeloma: multiple myeloma; Lymphoma: diffuse large B-cell lymphoma, Hodgkin lymphoma, follicular lymphoma, marginal zone lymphoma, Burkitt lymphoma, Burkitt-like lymphoma, nodal/extra-nodal NK/T-cell lymphoma; Sarcoma: sarcoma, Ewing sarcoma, Kaposi's sarcoma, chondrosarcoma, osteosarcoma, liposarcoma, vestibular schwannomas, gastrointestinal stromal tumor; Mesothelioma: pleural mesothelioma, peritoneal mesothelioma).





