MOLECULAR HEALTH
MH GUIDE

Molecular pathology

MH Guide: Molecular tumor diagnostics in 7 steps

The MH Guide software claims to support therapy decisions in oncology. It can translate data obtained from molecular tumor diagnostic tests into clinically relevant knowledge. This overview illustrates the practical use of the MH Guide.

NGS: From hotspot to gene profile

In keeping with guidelines, molecular pathological examination of individual oncogenic mutations now constitutes a prerequisite for the use of certain targeted therapies. The S3 guideline for bronchial carcinoma, for instance, recommends that tumor-driving gene alterations in the EGFR[a] and ALK[b] gene, among others, be determined before specific tyrosine kinase inhibitors are used.

Next-generation sequencing (NGS) offers considerably wider options instead of identification of single mutations alone (hotspots). This will be especially beneficial for patients who have exhausted all guideline-based options or those with rare tumors.[1]

a Epidermal growth factor receptor
b Anaplastic lymphoma kinase

MH Guide: Software supports treatment decisions

NGS enables comprehensive estimation of complex changes in the tumor genome, such as multiple mutations and gene translocations.[1] Achieving the best possible analyzes of this extensive information is crucial in order to find solutions to important clinically relevant problems, such as:

- Are therapeutic options available for the genetic aberrations identified?
- Which therapy is beneficial for a given patient?

The Molecular Health Guide (MH Guide) – a software which provides clinical decision support – offers concrete answers.[2,3]

5 facts: Capabilities of the MH Guide[2.3]

MH Guide

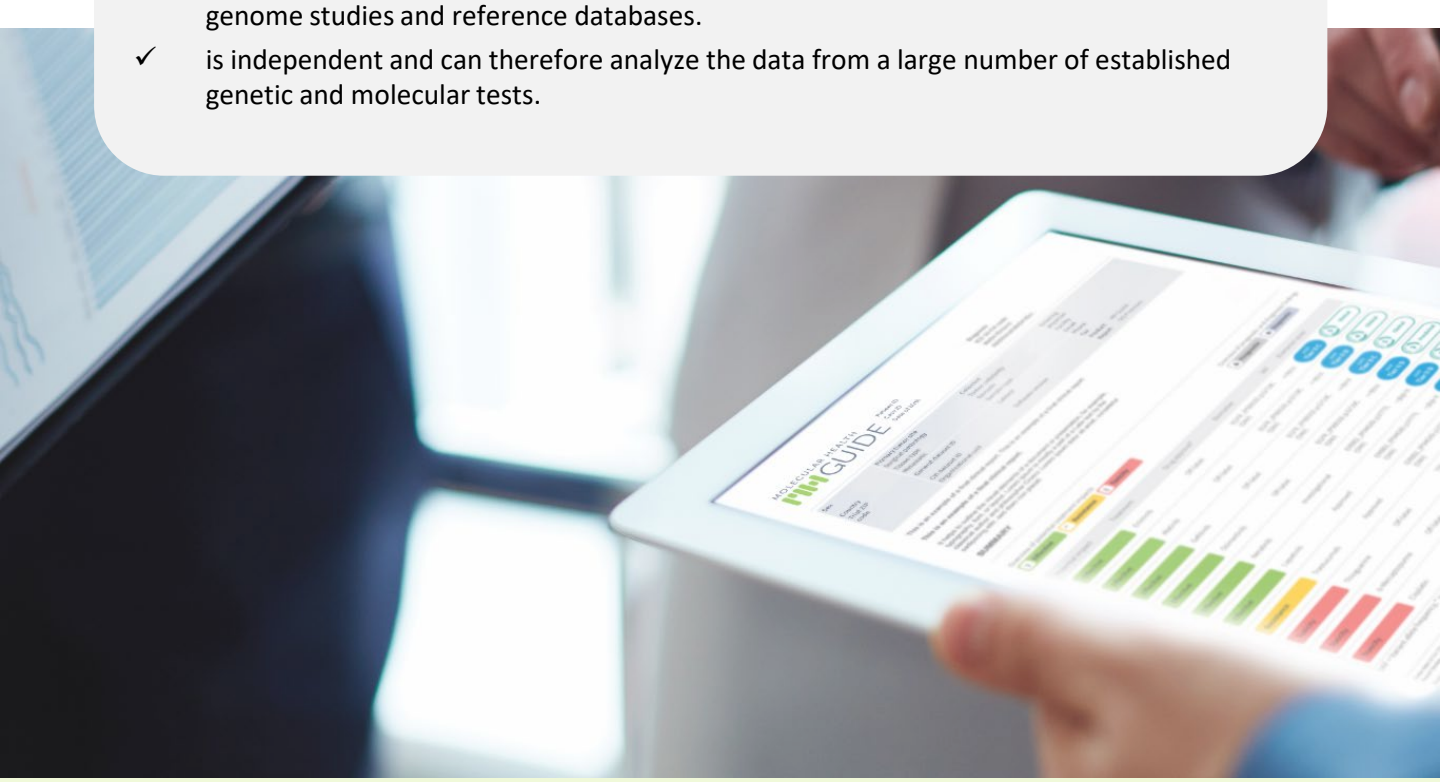
✓ is a web-based software which supports the evaluation of genetic data and treatment decisions for
- molecular pathologists and diagnostic laboratories
- specialists, such as oncologists and specialists for rare diseases

✓ translates complex genetic data into clinically relevant information.

✓ supports doctors in order to find suitable
- targeted therapies,
- immunotherapies and
- clinical studies for their patients.

✓ is based on the Dataome database developed by Molecular Health, which brings together continuously updated and verified information from recognized literature sources, genome studies and reference databases.

✓ is independent and can therefore analyze the data from a large number of established genetic and molecular tests.



In 7 steps: MH Guide is easy to use

What are the advantages of MH Guide in clinical practice? This overview describes the procedures step-by-step: [2,3]

The oncologist provides the indication for molecular pathological diagnostic tests.

The oncologist sends sample material (tumor biopsy or tumor sample) with a referral and the medical report to his/her pathologist on site. He/She requests evidence of tumor-relevant mutations.

The pathologist examines the tumor and either undertakes
(a) the NGS analysis him/herself or
(b) requests a molecular pathology laboratory to do so

The laboratory entrusted with this task performs the NGS analysis and uploads data on the web portal for MH Guide evaluation.

MH Guide analyzes NGS data, compares it with information provided by the Dataome knowledge database and allows compilation of a customized report.

The laboratory conducting this examination processes the MH Guide report, approves and signs it and sends it to the concerned pathologist. The report is then compiled by the pathologist with all pathological results and the MH Guide report.

The oncologist receives the report from the concerned pathologist, including individual therapy information and possible studies.

Oncologists and pathologists work hand in hand

Oncologists work closely with pathologists and molecular pathologists when using the MH Guide in oncology: [2,3]

Who …	… does what?
Oncologist	▪ provides the indication for comprehensive molecular pathological diagnostic tests. ▪ obtains sample material (tumor biopsy). ▪ commissions the concerned pathologist to provide evidence of tumor-relevant mutations. ▪ receives the report and decides on further therapeutic options for the patient.
Pathologist	▪ performs pathological examinations on the tumor and commissions a specialized molecular pathology laboratory for NGS analysis and evaluation with the MH Guide, if required. ▪ compiles a summarized report from pathological results and the MH Guide report.
Molecular pathologist/ molecular pathological laboratory	▪ performs NGS analysis. ▪ analyzes NGS data using the MH Guide (uploads data via the web portal). ▪ compiles the individual MH Guide report.

Sources

1. Laßmann S et al. Molekulare Diagnostik: Rasante Weiterentwicklung. Dtsch Arztebl 2019;116:35-36
2. Molecular Health GmbH. The world's best Decision Support in your own hands. 2020
3. Molecular Health GmbH, Genombasierte Entscheidungshilfe bei der Krebsbehandlung. Unter: https://www.molecularhealth.com/de/mh-guide-de/ (abgerufen am 05.04.2020)

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