

Cell Counting Kit-8 CCK-8

➤ What's CCK-8

The Cell Counting Kit-8 (CCK-8) utilizes the water-soluble tetrazolium salt, WST-8, to achieve rapid detection. The principle is that WST-8 can be reduced by dehydrogenases in the mitochondria to form an orange-yellow formazan in the presence of an electron coupling reagent. Through colorimetry, the number of viable cells can be dynamically quantified, thereby enabling the detection of cell proliferation or drug toxicity. The CCK-8 can be directly added to cells without the need for pre-mixing with other components, making the testing process convenient with accurate results.



➤ Advantages

Simple testing and organic solvents are not required



Stable and ready-to-use



Non-toxic to cells



Higher sensitivity of detection



➤ Applications

Cell proliferation assay

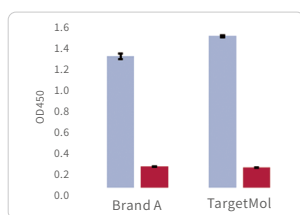
Cytotoxicity assay

Cell viability assay

Antitumor drug screening

➤ Comparison

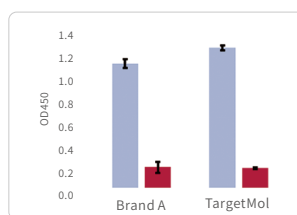
1. Product Effect



【1】 Cell line: HepG2



【2】 Cell line: K562



【3】 Cell line: H1299

■ Vehicle: 0.5%DMSO
■ Chemicals: 10 μM DrugX

Incubation:
37°C, 5% CO₂, 2.5 hours

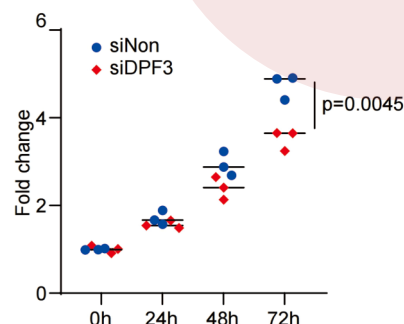
2. Assay

Properties	MTT	XTT	WST-1	CCK-8
Solubility of Formazans	-	+	+	+
Forms	Powder	2 - bottle solution	1 bottle - solution	1 bottle - solution
Preparation	Dissolve before use	Mix before use	Ready to use	Ready to use
Sensitivity	+	++	++	+++
Detection Speed	+	++	++	+++
Wavelength	560~600 nM	420~480 nM	420~480 nM	430~490 nM
Toxicity	+	-	-	-
Stability	+	-	+	++
96-well plate compatibility	+	++	++	++
Convenience	+	++	++	+++

Validation

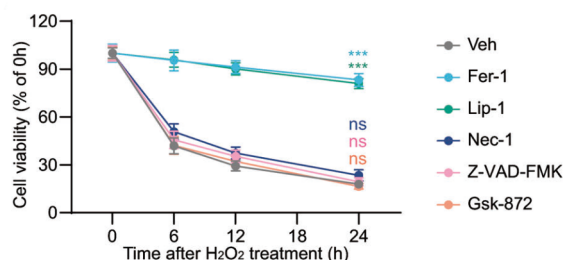
- Cells were seeded into the 96-well plates. After incubation for 0, 24, 48, and 72 h, **CCK-8 solution (C0005, TargetMol)** was added to each well and cells were incubated for an additional 2 h. Finally, the absorbance was measured at a wavelength of 450 nm.

(Cui H, et al. The SWI/SNF chromatin remodeling factor DPF3 regulates metastasis of ccRCC by modulating TGF- β signaling. Nat Commun. 2022 Aug 9; 13 (1): 4680.)



- Cell counting kit - 8 (C0005, TargetMol)** was used for the measurement of cell viability.

(Hu G, et al. Suppressing Mesenchymal Stromal Cell Ferroptosis Via Targeting a Metabolism-Epigenetics Axis Corrects their Poor Retention and Insufficient Healing Benefits in the Injured Liver Milieu. Adv Sci (Weinh). 2023 May;10(13):e2206439.)



Citation



Cell Counting Kit-8 (CCK-8)

Miao Z, Li J, Wang Y, et al. Hsa_circ_0136666 stimulates gastric cancer progression and tumor immune escape by regulating the miR-375/PRKDC Axis and PD-L1 phosphorylation. Mol Cancer. 2023 Dec 13;22(1):205. 37.3

Huang B, Ren J, Ma Q, et al. A novel peptide PDHK1-241aa encoded by circPDHK1 promotes ccRCC progression via interacting with PPP1CA to inhibit AKT dephosphorylation and activate the AKT-mTOR signaling pathway. Mol Cancer. 2024 Feb 15;23(1):34. 37.3

Liu X, Meng J, Liao X, et al. A de novo missense mutation in MPP2 confers an increased risk of Vogt-Koyanagi-Harada disease as shown by trio-based whole-exome sequencing. Cell Mol Immunol. 2023 Nov;20(11):1379-1392. 24.1

Qi M, Fan S, Huang M, et al. Targeting FAP α -expressing hepatic stellate cells overcomes resistance to antiangiogenics in colorectal cancer liver metastasis models[J]. The Journal of Clinical Investigation, 2022, 132(19) 15.9

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